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AT URBANA-CHAMPAIGN

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FIELD MANUAL  
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HEADQUARTERS  
DEPARTMENT OF THE ARMY  
Washington, DC, 31 December 1980

# THE INFANTRY PLATOON AND SQUAD (INFANTRY, AIRBORNE, AIR ASSAULT, RANGER)

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\*This publication supersedes TC 7-1, 31 December 1976.



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## PREFACE

This manual tells how to employ rifle platoons and rifle squads in infantry, airborne, air assault, and ranger companies. It covers platoon and squad organization, tactics, combat support, and combat service support.

The terms “rifle platoon” and “rifle squad” or “platoon” and “squad” as used in this manual refer to all four types of infantry units.

Because new weapons and equipment are always being introduced, model numbers are not always used for weapons, vehicles, or communications equipment. Users of this manual must adapt its guidance to fit the weapons and equipment found in their units.

Provisions of this publication are the subject of International Standardization Agreements 2002, 2003, 2014, 2029, 2099, 2112, 2036, 2044, 2047, 2144, 2358, 2088 (QSTAG 182) and QSTAG 255.

You may recommend changes to this manual to improve it. Key your comments to the page and line of text in which the changes are recommended. Give reasons for each comment to help understand and evaluate it. Send comments to: Commandant, United States Army Infantry School, ATTN: ATSH-B-ID, Fort Benning, Georgia 31905.

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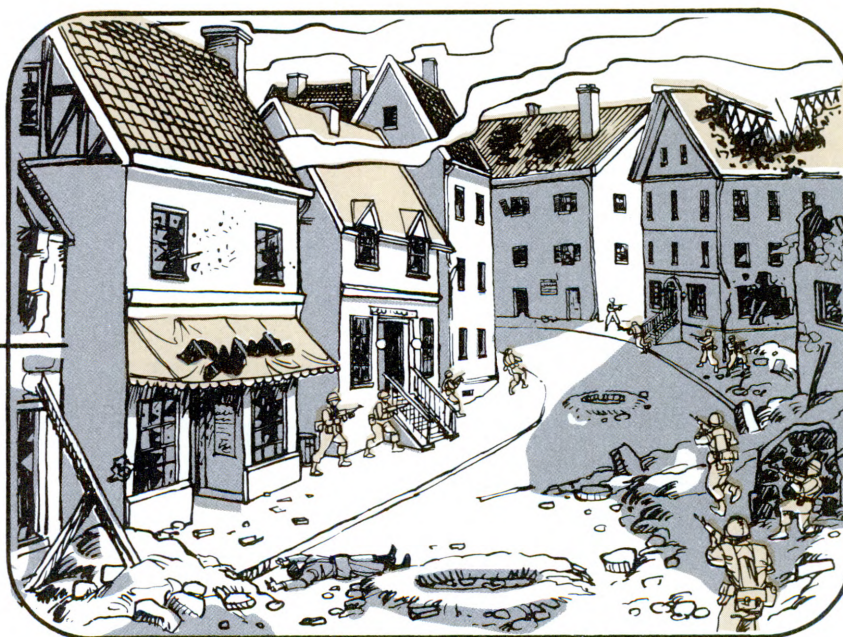
The words “he,” “him,” “his,” “man,” and “men,” when used in this publication, represent both the masculine and feminine genders unless otherwise specifically stated.

## CHAPTER 1

# THE BATTLEFIELD

### GENERAL

The infantry must use a wide variety of weapons in all types of combat. It must be able to fight in any type terrain and under any conditions.



Infantry is best suited for employment in close terrain such as forests, towns, jungles, and mountains. Because it can be rapidly deployed by many means, infantry can be easily transported and inserted onto the battlefield anywhere in the world.



## Section I

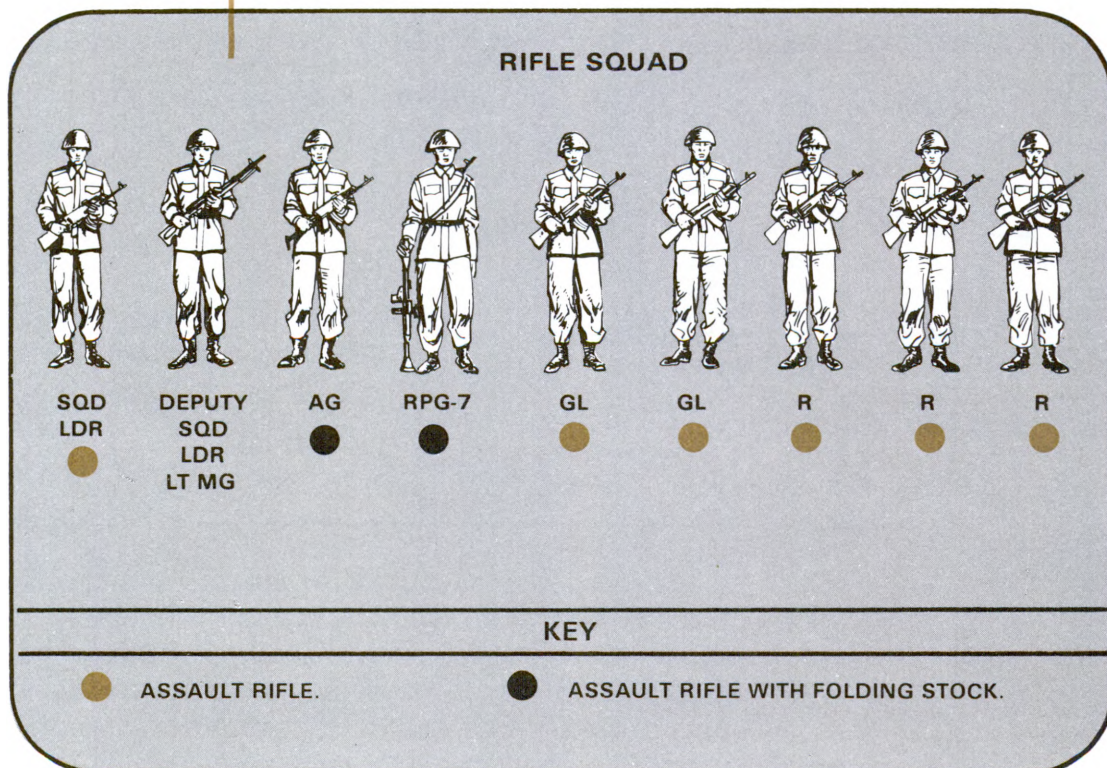
# THE ENEMY

### INTRODUCTION

Enemy infantry troops are likely to be from the working class. They are given tough, realistic training. They may not be as well educated as US soldiers, but they may be able to endure more hardships. They will probably be tough fighters.

### INFANTRY UNITS

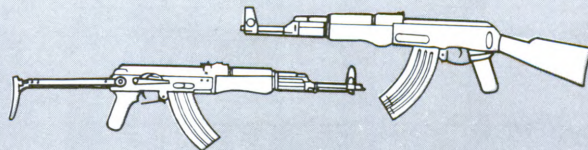
In Asia and other areas outside of Europe, infantry units are the main threat. A typical infantry squad has nine men, including a squad leader and a deputy squad leader. A squad has assault rifles, one antitank (AT) grenade launcher, and one light machinegun.



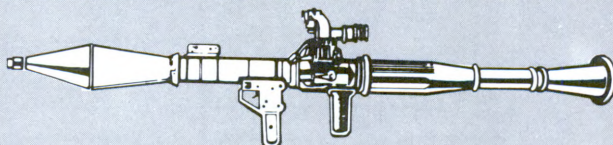


**ASSAULT RIFLE**

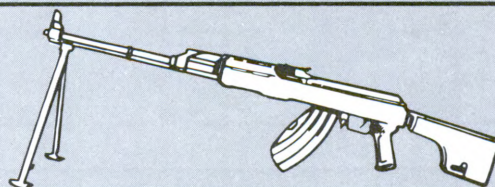
7.62-MM ASSAULT RIFLE, TYPE 46, is an automatic or semiautomatic rifle. It has a 30-round magazine and can fire 40 rounds/minute on semiautomatic and 100 rounds/minute on automatic. Effective range is 400 meters.

**RPG-7**

40-MM ANTITANK GRENADE LAUNCHER, RPG-7, has an effective range of 500 meters against stationary targets and 300 meters against moving targets.

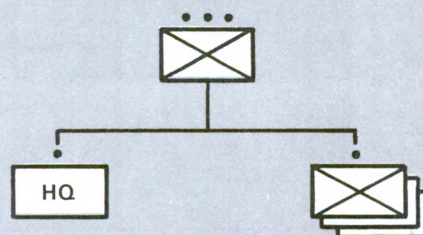
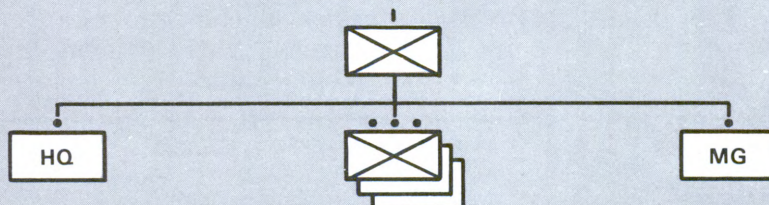
**LIGHT MACHINEGUN**

7.62-MM LIGHT MACHINEGUN, TYPE 56-1, uses a 75-round drum and can fire 150 rounds/minute on automatic and 50 rounds/minute on semiautomatic. Effective range is 800 meters.



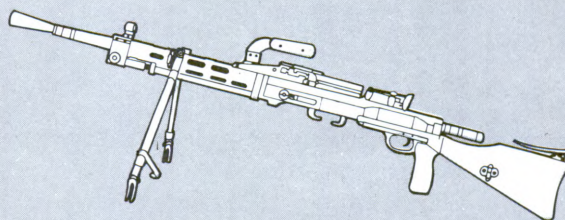
There are three rifle squads in a rifle platoon. The platoon headquarters has a platoon leader, an assistant platoon leader, and one sniper.

The rifle company has three rifle platoons, a machinegun squad, and a headquarters.

**RIFLE PLATOON****RIFLE COMPANY****LIGHT MACHINEGUN**

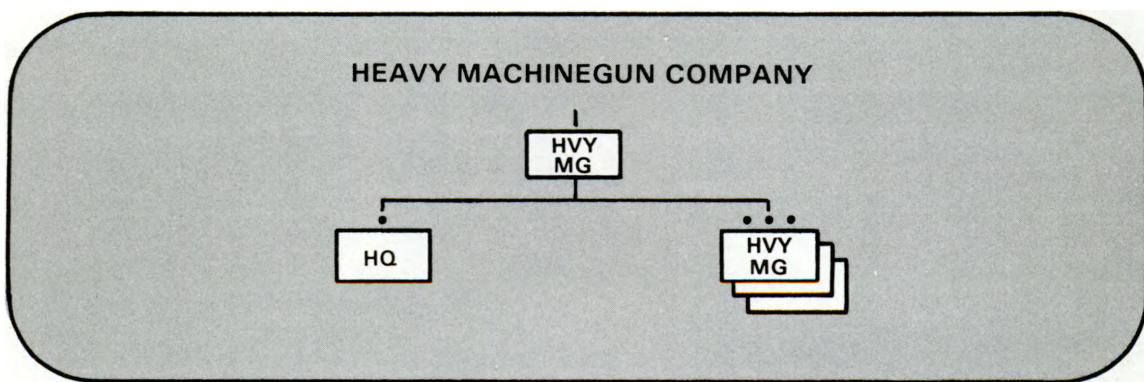
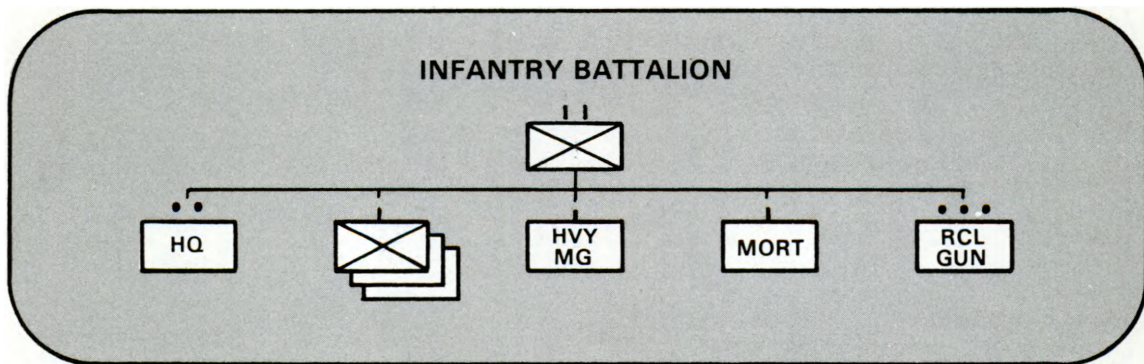
The machinegun squad has two 7.62-mm light machineguns.

7.62-MM LIGHT MACHINEGUN, TYPE 58, uses a 250-round belt and can fire at a sustained rate of 250 rounds/minute. Effective range is 800 meters.

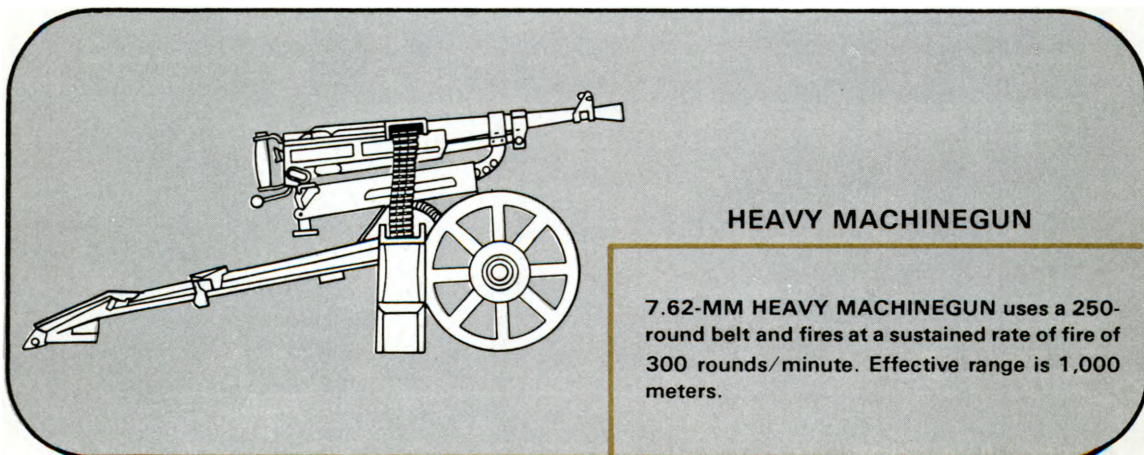




The infantry battalion has three rifle companies, a heavy machinegun company, a mortar company, a recoilless gun platoon, and a headquarters.

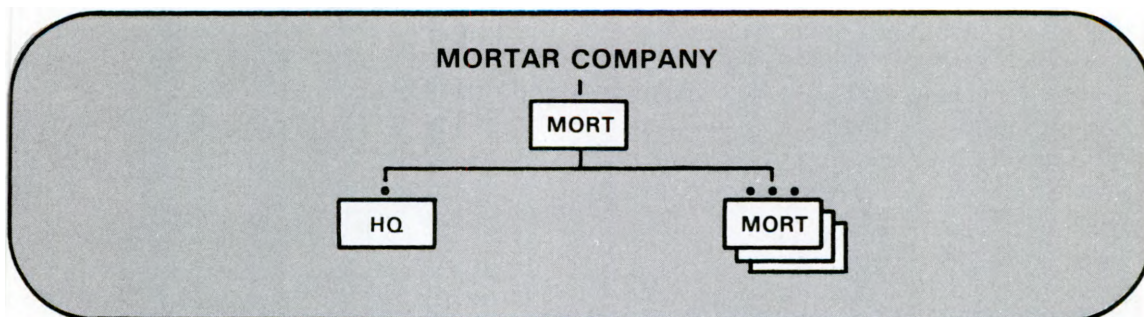


The heavy machinegun company has three heavy machinegun platoons and a headquarters. Each platoon has three heavy machineguns.



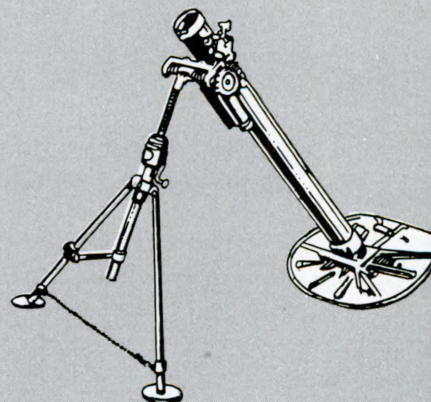


The mortar company has three mortar platoons and a headquarters. Each platoon has three 82-mm mortars.



### 82-MM MORTAR

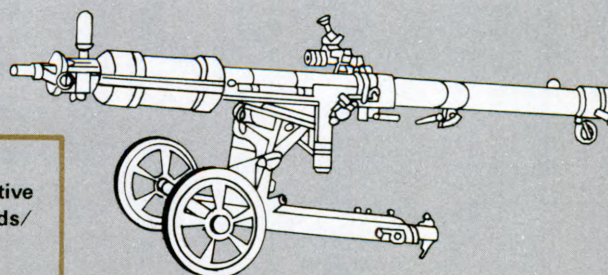
82-MM MORTAR has a maximum range of 3,040 meters and can fire 15 - 25 rounds/minute.



The recoilless gun platoon has four medium AT recoilless guns.

### 82-MM RECOILLESS GUN

82-MM RECOILLESS GUN has an effective range of 400 meters and can fire 5 rounds/minute.





## How Enemy Infantry Fights

The enemy believes that victory is gained by attacking and destroying the opponent's force, not by capturing and holding terrain. The enemy defends only in the face of a stronger opponent so as to gain time to concentrate forces before resuming the attack.

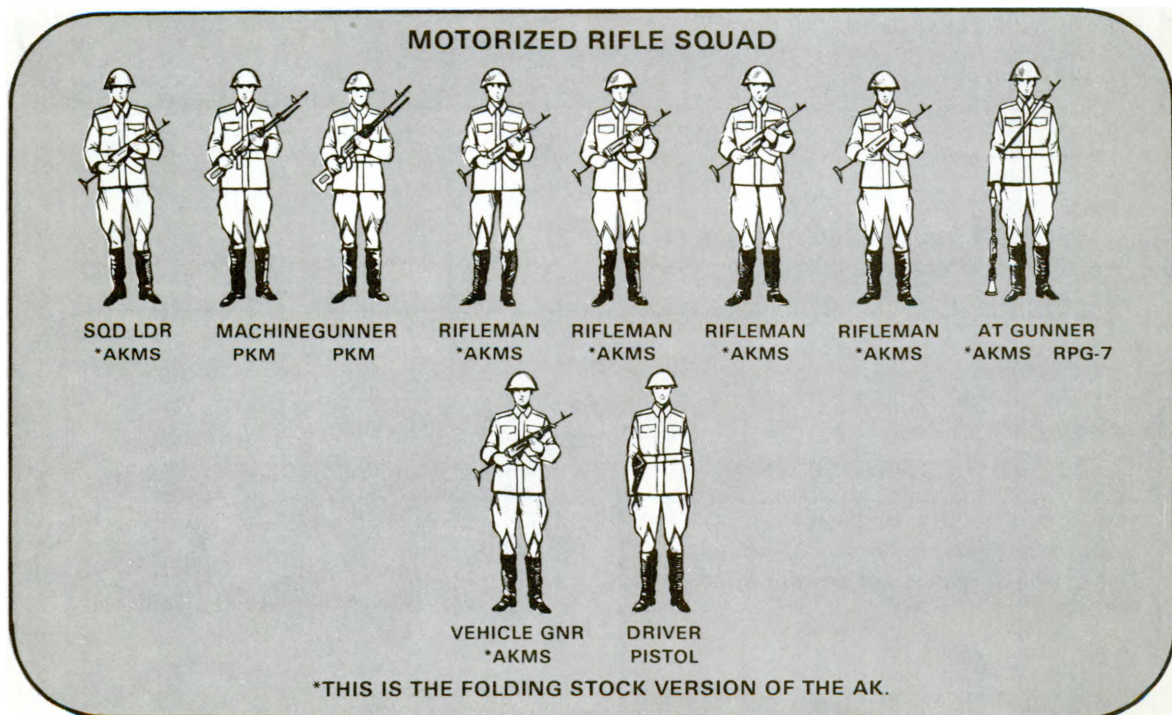
When an attack is halted in one sector, commanders are expected to probe, reconnoiter, and infiltrate to find weak points in the defense. The enemy infantry relies on its nonmotorized elements to outmaneuver road-

bound forces. It uses rugged, unlikely routes of advance in mountainous terrain to hinder a hostile force's mobility and firepower. To the enemy's <sup>3/4</sup> infantry, a squad which can march 50 km a day on foot with 40-kg (88-lb) packs is worth more than a battalion of roadbound, motorized infantry.

The importance that the enemy's infantry places on surprise and infiltration is shown by his principle that "one man in the rear of the enemy is worth ten men before him."

## MOTORIZED RIFLE UNITS

Motorized rifle (MR) units are common in Europe and may be found in other parts of the world. An MR squad has eight men, including a squad leader. It rides in either a BMP or a BTR-60. The BMP has a three-man crew. The BTR-60 has a two-man crew. The squad has assault rifles, two light machineguns, and one AT grenade launcher.



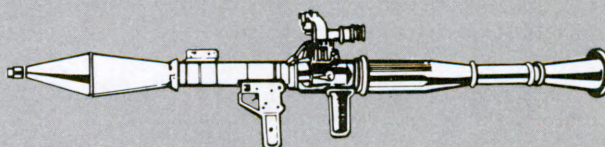


**ASSAULT RIFLE, AKMS**

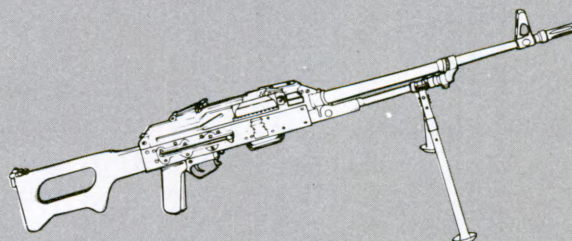
7.62-MM ASSAULT RIFLE, AKMS, is an automatic or semiautomatic rifle. It has a 30-round magazine and can fire 40 rounds/minute on semiautomatic and 100 rounds/minute on automatic. Effective range is 400 meters.

**RPG-7**

ANTITANK GRENADE LAUNCHER, RPG-7, has a range of 500 meters against stationary targets and 300 meters against moving targets.

**LIGHT MACHINEGUN PKM**

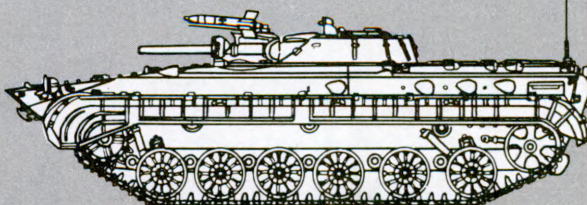
7.62-MM LIGHT MACHINEGUN, PKM, uses a 250-round belt and can be bipod or tripod mounted. It has an effective range of 1,000 meters and can fire at a sustained rate of 650 rounds/minute.



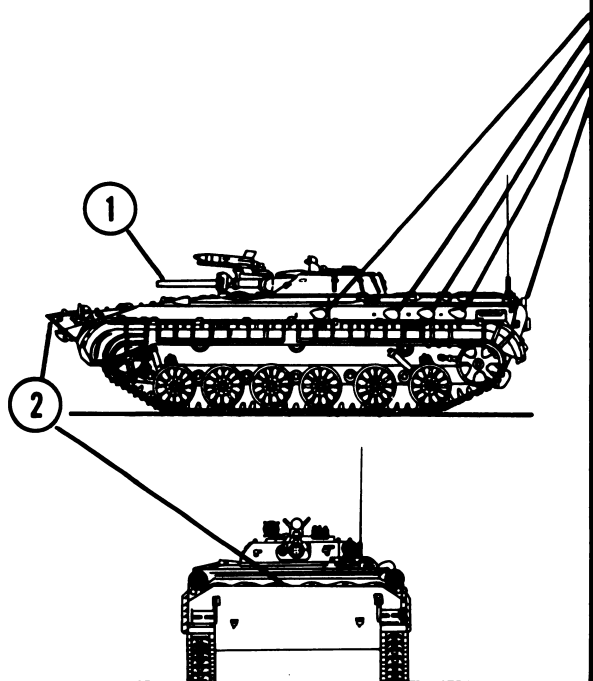
The BMP has a 73-mm AT gun, a 7.62-mm coax machinegun, and a Sagger.

**BMP**

Crew:	3
Passengers:	8
Speed:	Road - 55 kmph Water - 8 kmph
Maximum Grade:	60% (30-degree) slope
Can cross a 2.7-meter (9-ft) trench, climb a 90-cm (3-ft) vertical obstacle.	







There are four firing ports on each side of a BMP and one in the left rear door from which men can shoot while moving. A PKM machinegun shoots from the front port on each side. The other ports are for rifles.

The BMP is not heavily armored. The light antitank weapon (LAW) can penetrate the BMP from any side. It is best to aim at the sides, rear, or top. **Frontal shots are the least desirable because —**

- ① the BMP's main gun is oriented toward the front, and
- ② the slope of the front makes it harder to get a good hit.

The grenade launcher's high explosive dual purpose (HEDP) round can also penetrate the BMP. Fire from a cal .50 machinegun will not penetrate the front but will penetrate a side at 200 meters or less.

**The fuel cells in the rear doors are good targets.**

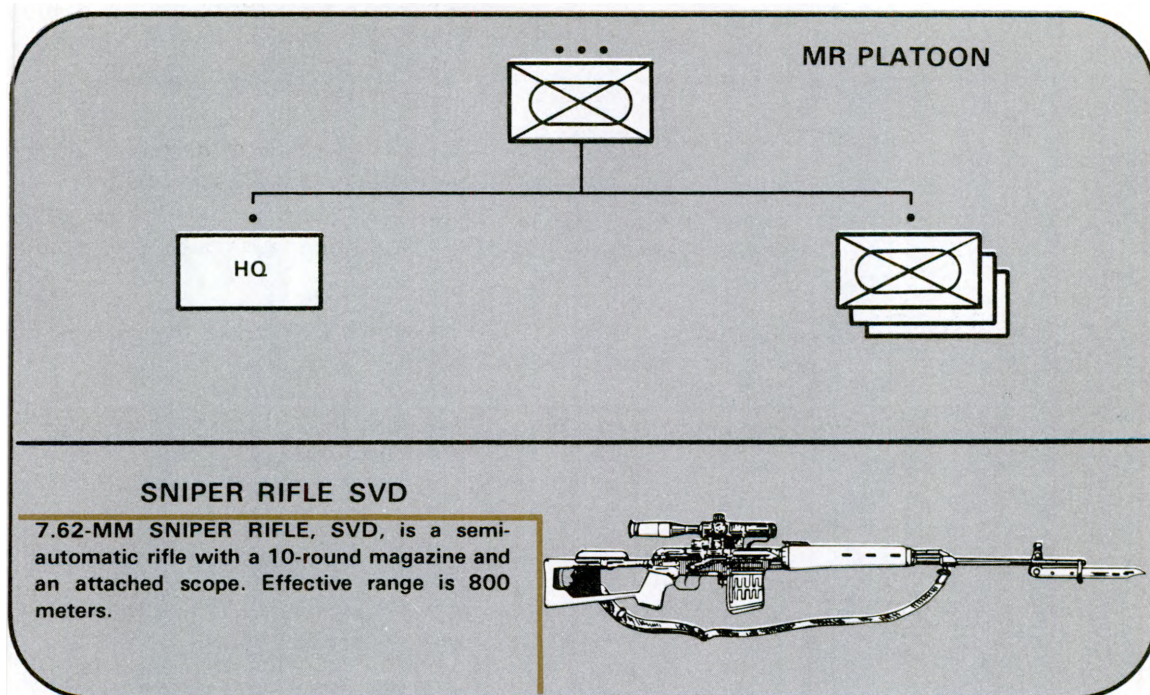
The BTR-60 has a 14.5-mm machinegun and a 7.62-mm machinegun.

The same techniques are used to kill the BTR-60 as with the BMP. One weakness of the BTR-60 is that men can get out of it only from the top.

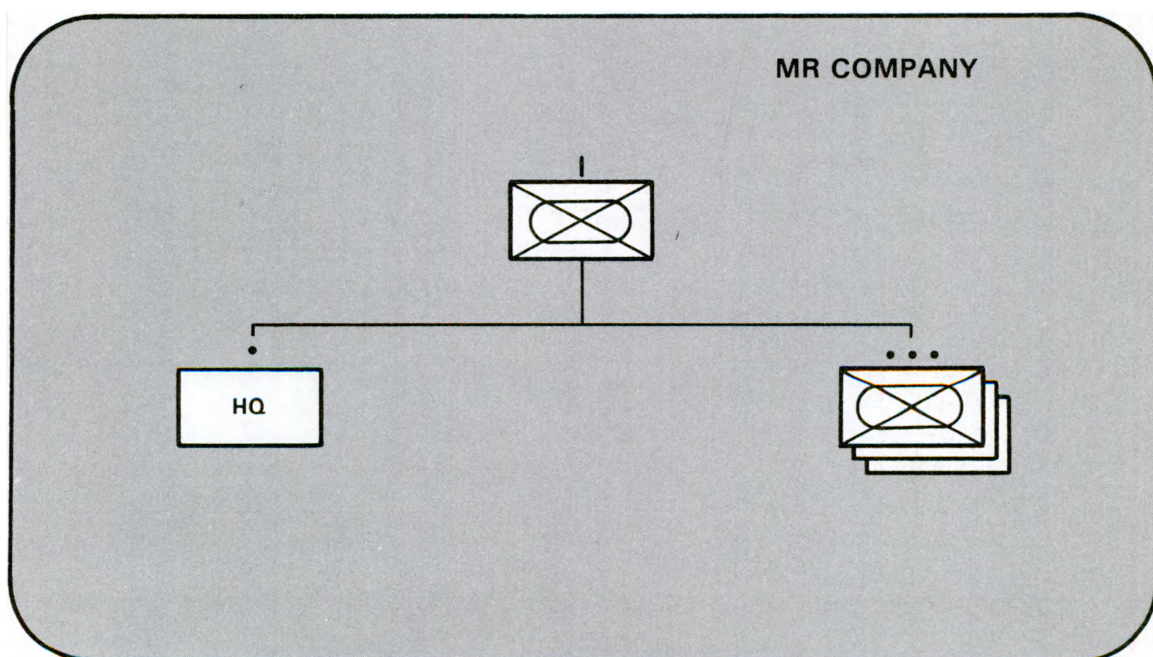
BTR-60	
Crew:	2
Passengers:	14
Speed:	Road - 80 kmph Water - 10 kmph

THREE FIRING PORTS ON EACH SIDE

The MR platoon has a headquarters and three MR squads. One man is a sniper.



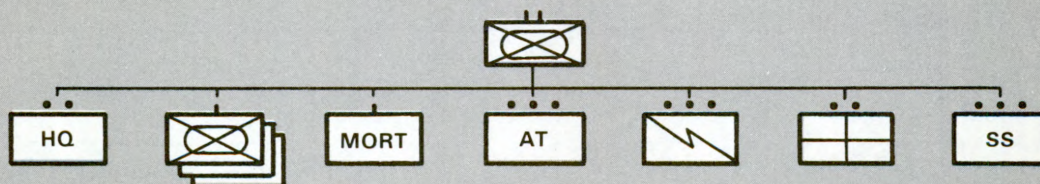
The MR company has a headquarters and three MR platoons.



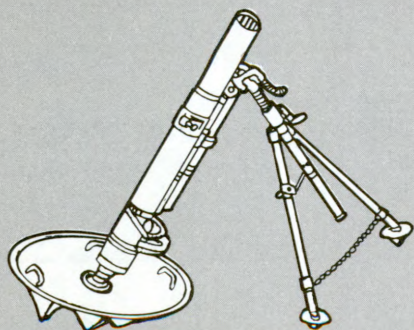


The MR battalion has three MR companies, a mortar battery, an AT platoon, a signal platoon, a medical section, a supply and services platoon, and a headquarters.

## MR BATTALION



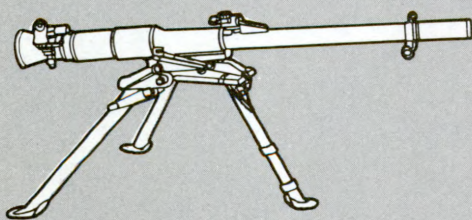
The mortar battery has six 120-mm mortars.



## 120-MM MORTAR

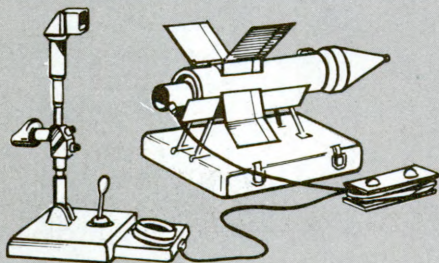
120-MM MORTAR has a maximum range of 5,700 meters and can fire 15 rounds/minute.

The AT platoon has two recoilless AT guns and two man-packed Sagger.



## ANTITANK GUN SPG-9

73-MM ANTITANK GUN, SPG-9, has an effective range of 1,000 meters.



## SAGGER

SAGGER, ANTITANK GUIDED MISSILE, is wire-guided and has a maximum range of 3,000 meters and a minimum range of 500 meters. It can be fired from a ground mount or a vehicular mount.



## How Enemy Motorized Rifle Units Fight

The enemy believes that victory is won only through the offense. He defends only to gain time or to economize forces.

These units fight as combined arms teams — infantry, armor, artillery, tactical air, air defense, engineers, chemical, and other supporting units.

They use surprise to seize the initiative and gain fire superiority. They fight in both good and bad visibility. Their doctrine calls for continuous operations — day and night.

The enemy deploys his forces in two echelons in both the offense and defense. The battalion may have a small mobile reserve force.

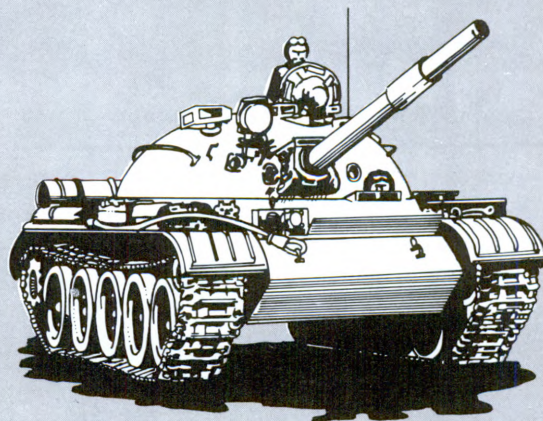
The enemy plans and trains for the use of nuclear, biological, and chemical (NBC) weapons.

## SUPPORTING UNITS

### Tanks and Assault Guns

#### T-62 MEDIUM TANK

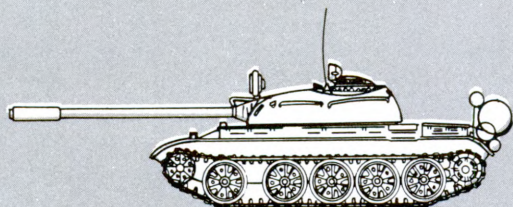
Crew:	4
Armament:	115-mm smooth-bore gun 7.62-mm coax machinegun 12.7-mm antiaircraft machinegun on top of turret on T-62A
Road Speed:	50 kmph
Maximum Grade:	60% (30-degree) slope
Can cross a 2.7-meter (9-ft) trench and climb an 80-cm (31-in) vertical obstacle.	





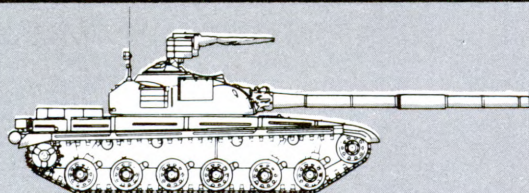
## Tanks and Assault Guns Continued

## T-55 MEDIUM TANK



Crew:	4
Armament:	100-mm gun Two 7.62-mm machineguns
Road Speed:	48.3 kmph
Maximum Grade:	60% (30-degree) slope
Can cross a 2.7-meter (9-ft) trench, climb an 80-cm (31-in) vertical obstacle.	

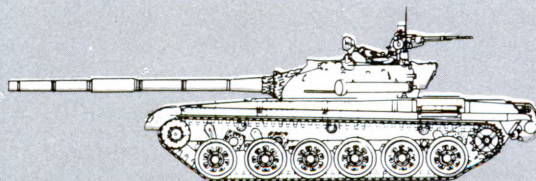
## T-64 MEDIUM TANK



Can cross a 2.7-meter (9-ft) trench, climb an 80-cm (31-in) vertical obstacle.

Crew:	3
Armament:	125-mm gun 7.62-mm coax machinegun
Road Speed:	70 kmph
Maximum Grade:	60% (30-degree) slope

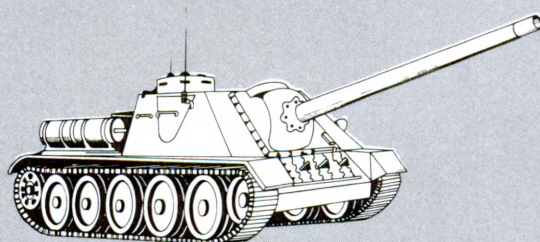
## T-72 MEDIUM TANK



Can cross a 2.7-meter (9-ft) trench, climb an 80-cm (31-in) vertical obstacle.

Crew:	3
Armament:	125-mm gun 7.62-mm coax machinegun
Road Speed:	70 kmph
Maximum Grade:	60% (30-degree) slope

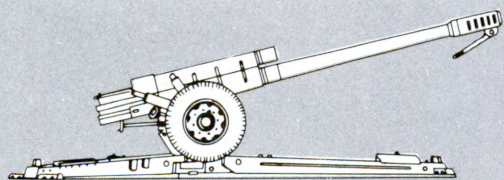
## SU-85 ASSAULT GUN



Crew:	4
Armament:	100-mm gun 7.62-mm machinegun
Road Speed:	53 kmph

## Field Artillery and Multiple Rocket Launchers

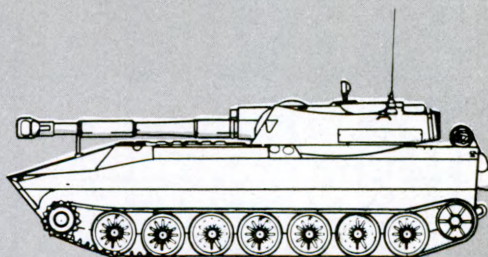
## 122-MM HOWITZER (D-30)



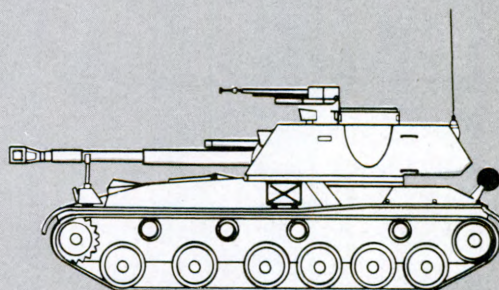
Maximum Range:	15,300 meters
Rate of Fire:	7 to 8 rounds/minute



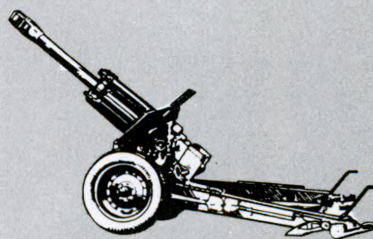
## Field Artillery and Multiple Rocket Launchers Continued

**122-MM SELF-PROPELLED  
HOWITZER (SAU-122)**

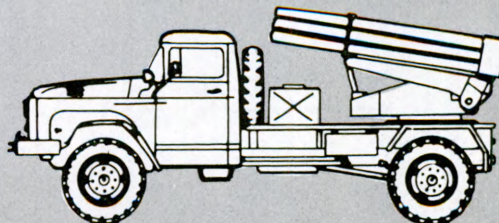
Maximum Range:	15,300 meters
Rate of Fire:	4 to 6 rounds/minute

**152-MM SELF-PROPELLED  
HOWITZER (SAU-152)**

Maximum Range:	18,400 meters
Rate of Fire:	4 to 6 rounds/minute

**152-MM GUN  
HOWITZER (D-20)**

Maximum Range:	18,500 meters
Rate of Fire:	5 rounds/minute

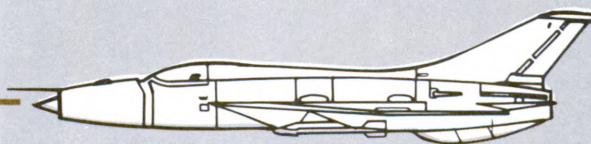
**122-MM MULTIPLE  
ROCKET LAUNCHER (BM-21)**

Maximum Range:	21,000 meters
Launcher Load:	40 rounds

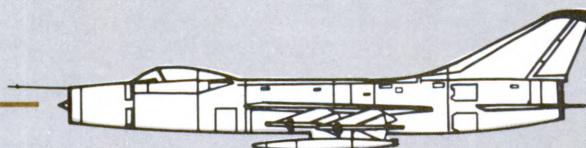


Attack Air

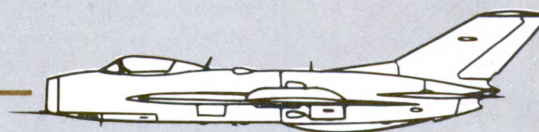
MIG-21 (FISHBED)



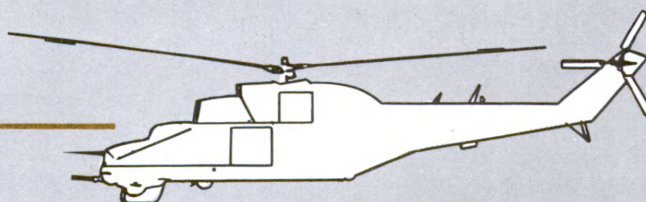
SU-7 (FITTER)



MIG-19 (FARMER)



HIND-D



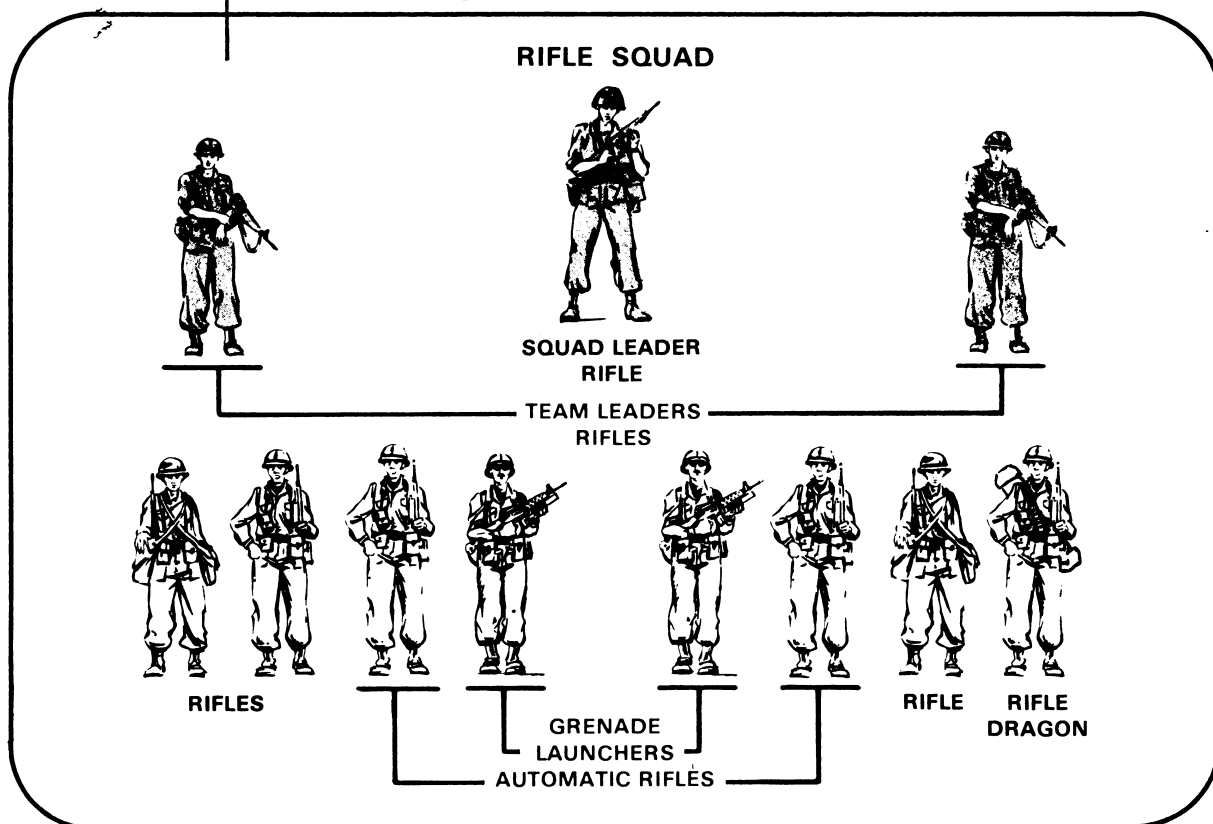
## Section II

# THE US FORCES

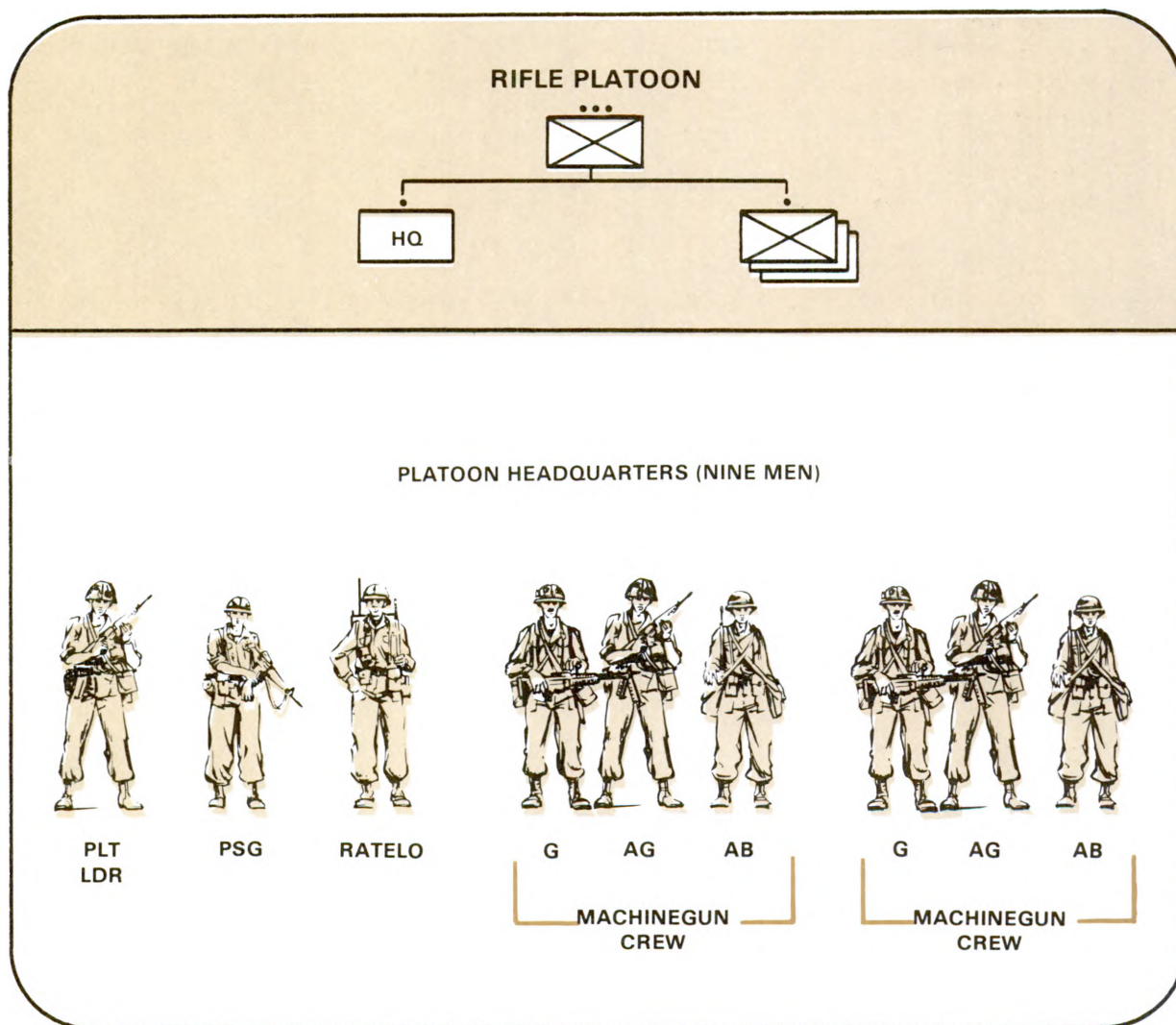
US Army infantry units fight as part of a combined arms team. This team has infantry, tanks, artillery, engineers, attack helicopters, and air defense units. It may also be supported by US Air Force tactical aircraft. All parts of a combined arms team work together to get the job done.

### ORGANIZATION OF AN INFANTRY RIFLE SQUAD AND PLATOON

**The Rifle Squad.** The rifle squad has 11 men and is led by a squad leader. It fights as two fire teams. Each fire team can fire, maneuver, or overwatch as described in chapters 3 and 4. One fire team has an antiarmor specialist (Dragon gunner).



**The Rifle Platoon.** The rifle platoon has three rifle squads. It has a nine-man headquarters with a platoon leader, platoon sergeant, radiotelephone operator (RATELO), and two machinegun crews. Each machinegun crew has a gunner, an assistant gunner, and an ammunition bearer.



Normally, a field artillery forward observer (FO) and RATELO are with each platoon. The FO helps the platoon leader plan and call for indirect fire. An aidman from the battalion medical platoon normally supports each rifle platoon.

The machineguns and Dragons may be controlled by the platoon leader, platoon sergeant, or squad leaders. The platoon sergeant helps the platoon leader and handles administration and supply. He takes charge in the absence of the platoon leader.



## ORGANIZATION OF UNDER-STRENGTH SQUADS AND PLATOONS

Units will not always be at full strength. Reorganize understrength units by these rules:

- **Keep key positions filled. Always have a chain of command — platoon leader, platoon sergeant, squad leaders, and team leaders.**
- **Man the most potent weapons first according to the threat:**

Infantry threat — machine-guns, grenade launchers, Dragons, then rifles.

Armor threat — Dragons, machineguns, grenade launchers, then rifles.

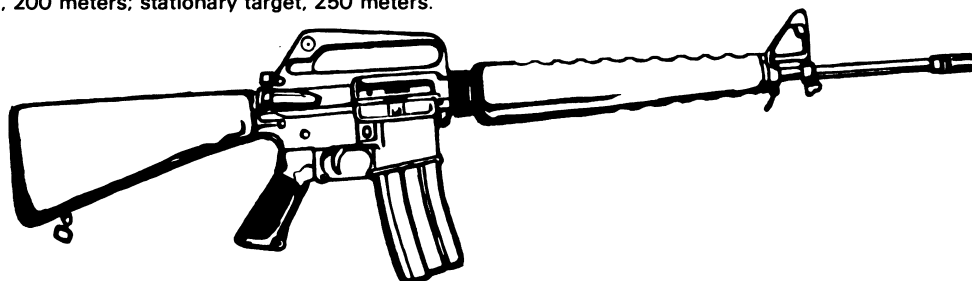
- **Keep two fire teams in a squad until its strength drops to five. Then organize as one team.**

## WEAPONS OF THE INFANTRY RIFLE PLATOON

All ranges given are those at which a 50:50 chance of a target hit is expected.

This rifle is automatic or semiautomatic, and has a 20- or 30-round magazine. The maximum effective rate of semiautomatic fire is 45 to 65 rounds/minute; of automatic fire, 150 to 200 rounds/minute. The sustained rate of fire is 12 to 15 rounds/minute. Range — moving target, 200 meters; stationary target, 250 meters.

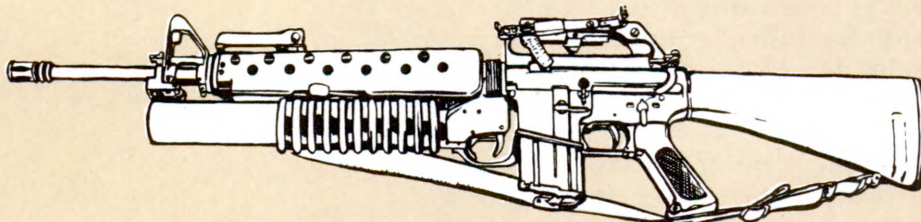
### M16A1 5.56-MM RIFLE



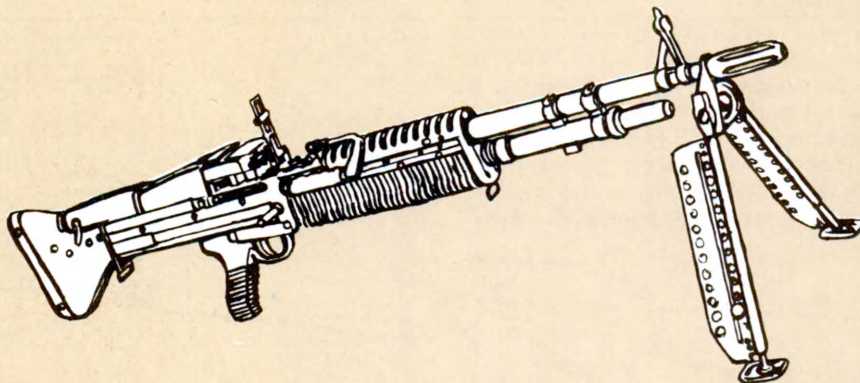
## WEAPONS OF THE INFANTRY RIFLE PLATOON CONTINUED

**M203 40-MM  
GRENADE LAUNCHER**

This **grenade launcher** is a single-shot, pump-action grenade launcher attached to an M16 rifle. The rate of fire is based on the grenadier's ability to load, aim, and fire. It has a variety of rounds. Range — area target, 350 meters; point targets: 200 meters, vehicle; 125 meters, windows; 50 meters, bunker aperture.

**M60 7.62-MM MACHINEGUN**

This **machinegun** is belt-fed and has an attached bipod on the barrel and a separate tripod mount. Rapid rate of fire is 200 rounds/minute, sustained rate of fire is 100 rounds/minute. Range (firing six- to nine-round burst) bipod-mounted: moving target, 200 meters; stationary point target, 600 meters; area target, 800 meters. Tripod-mounted — point target, 600 meters; area target, 1,100 meters.

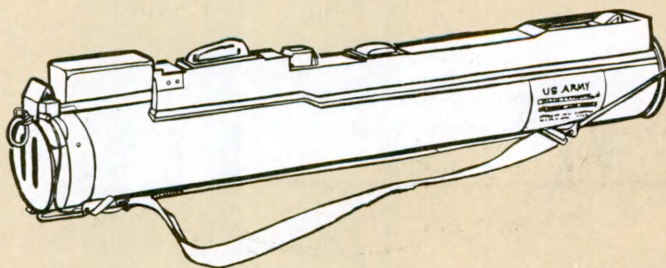




## WEAPONS OF THE INFANTRY RIFLE PLATOON CONTINUED

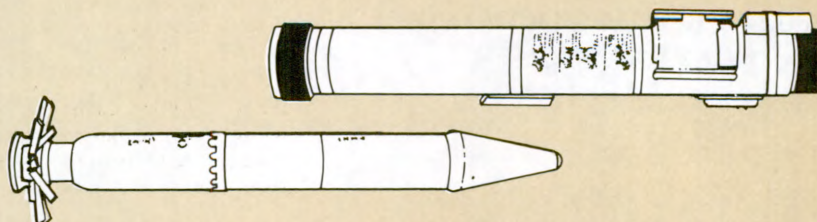
This light antitank weapon shoots a 66-mm high explosive AT (HEAT) rocket from a disposable fiberglass and aluminum launcher tube. It can kill or damage tanks. Range — moving target, 165 meters; stationary target 200 meters.

### M72A2 66-MM LIGHT ANTITANK WEAPON (LAW)



This light antitank weapon shoots a 70-mm HEAT rocket from a disposable fiberglass launcher tube. It can kill armored personnel carriers and kill or damage tanks. Effective range — 300 meters.

### 70-MM LIGHT ANTITANK WEAPON (VIPER)



This antitank guided missile weapon consists of a tracker and round. The tracker is reusable. The round consists of the missile and an expendable launcher. The gunner guides the missile to the target by keeping the sight's crosshairs on the target after firing. Its minimum firing range is 65 meters. Its maximum range is 1,000 meters.

### M47 MEDIUM ANTITANK WEAPON (DRAGON)

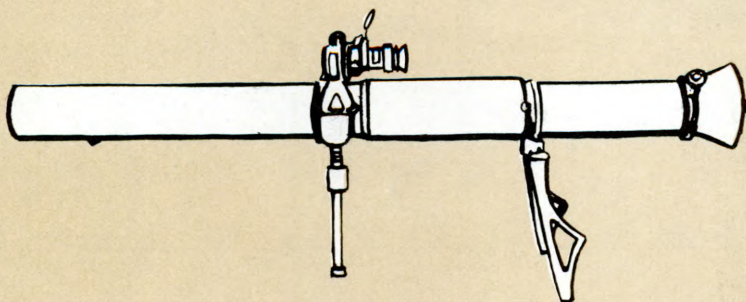




WEAPONS OF THE INFANTRY RIFLE PLATOON CONTINUED

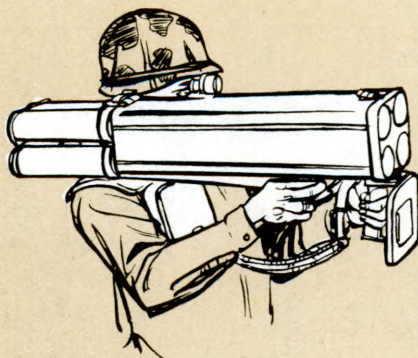
**M67 90-MM  
RECOILLESS RIFLE**

This recoilless rifle is a single-shot, breech-loaded antiarmor and antipersonnel weapon. It is being replaced by the Dragon in most units. Arming range is 30 meters to 35 meters. Maximum range — moving target, 200 meters; stationary target, 300 meters.



**M202A1 66-MM MULTISHOT  
ROCKET LAUNCHER  
(FLASH)**

This multishot rocker launcher fires a clip of four incendiary rockets and can be reloaded. Bursting radius is 20 meters. Range — area target, 750 meters; point target, 200 meters.

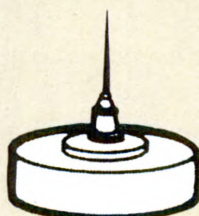


**Hand Grenades.** Fragmentation, concussion, and smoke grenades will be issued to men of the platoon.

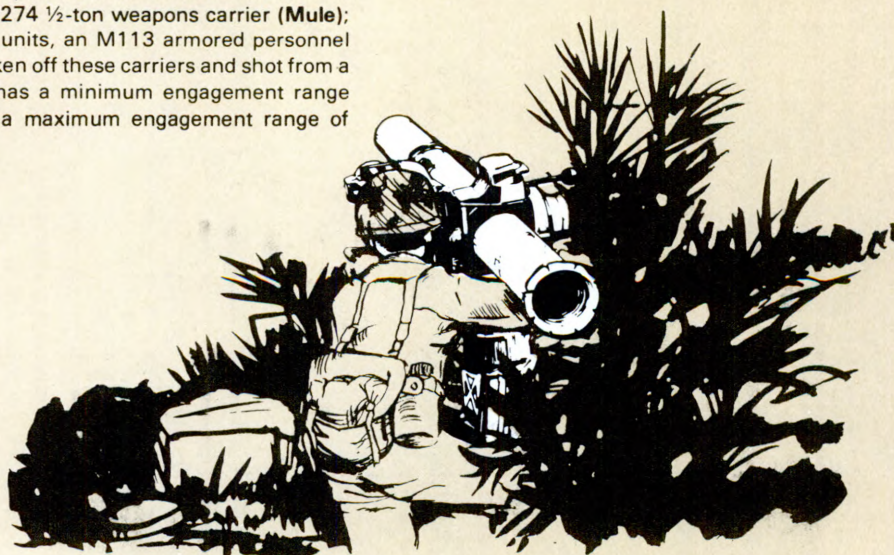


## WEAPONS OF THE INFANTRY RIFLE PLATOON CONTINUED

**Mines** may be used in any type combat. They can be laid by hand, by mechanical minelayers, by aircraft, or by artillery. Mines laid by infantry platoons are shown here.

**M14 ANTIPERSONNEL MINE****M18A1 ANTIPERSONNEL MINE****M21 ANTITANK MINE****M16 ANTIPERSONNEL MINE**WEAPONS THAT SUPPORT  
INFANTRY PLATOONS

**TOW** is a heavy tank weapon that shoots a wire-guided missile. It may be mounted on an M15A1 ¼-ton truck (**Jeep**); an M274 ½-ton weapons carrier (**Mule**); or, in mechanized units, an M113 armored personnel carrier. It can be taken off these carriers and shot from a ground mount. It has a minimum engagement range of 65 meters and a maximum engagement range of 3,000 meters.

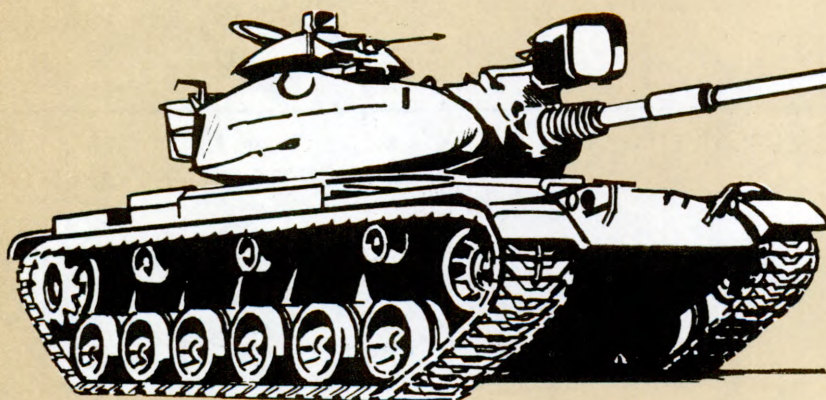
**TOW**



## WEAPONS THAT SUPPORT INFANTRY PLATOONS CONTINUED

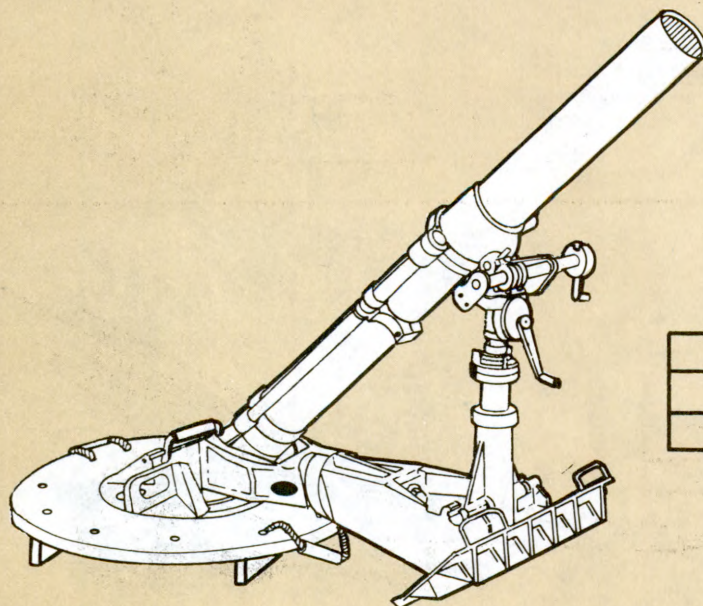
**Tanks** have cross-country mobility, speed, and armor protection. They can shoot quickly at long range with great accuracy. Tanks and infantry often fight as a team so they can be mutually supporting.

### M60A1 MAIN BATTLE TANK



Crew:	4
Armament:	
	105-mm gun
	7.62-mm coax machinegun
	cal .50 machinegun
Speed:	48.3 kmph

**Mortars** are organic to infantry units. They provide responsive, close-in, indirect fire. They can fire high explosive (HE), white phosphorus (WP), illuminating, and smoke rounds.



### 107-MM MORTAR

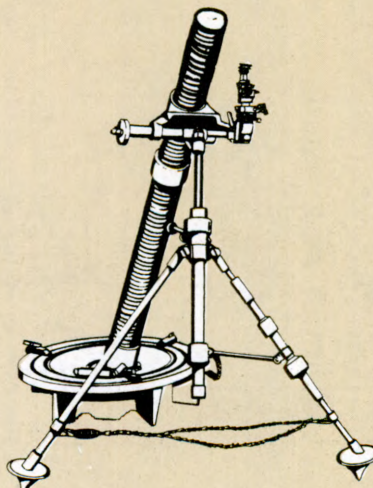
Maximum Range:	6,840 meters
Minimum Range:	770 meters
Rate of Fire:	18 rounds/minute



## WEAPONS THAT SUPPORT INFANTRY PLATOONS CONTINUED

**81-MM MORTAR**

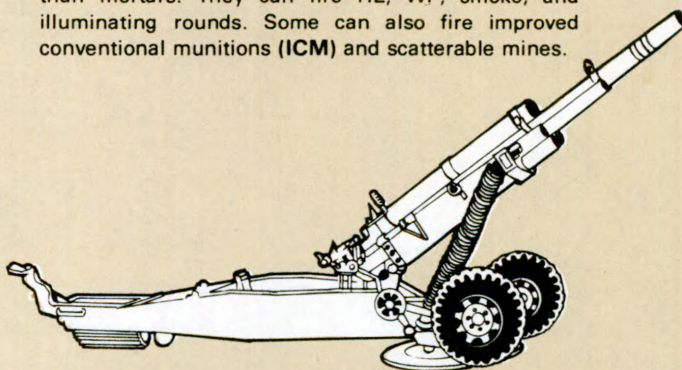
Maximum Range:	4,595 meters
Minimum Range:	70 meters
Rate of Fire:	30 rounds/minute



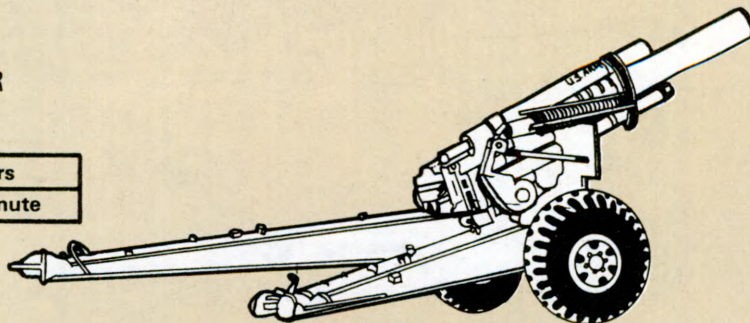
Field Artillery weapons have a much greater range than mortars. They can fire HE, WP, smoke, and illuminating rounds. Some can also fire improved conventional munitions (ICM) and scatterable mines.

**105-MM HOWITZER  
TOWED, M102**

Maximum Range:	11,500 meters
Rate of Fire:	10 rounds/minute

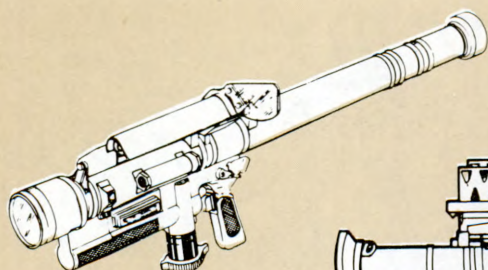
**155-MM HOWITZER  
TOWED, M114A1**

Maximum Range:	14,600 meters
Rate of Fire:	4 rounds/minute

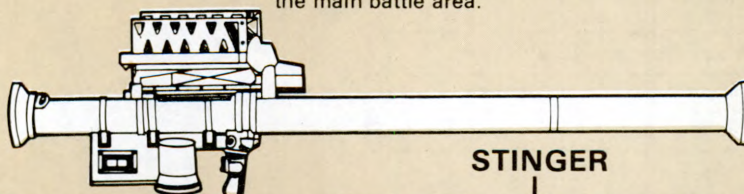




## WEAPONS THAT SUPPORT INFANTRY PLATOONS CONTINUED

**REDEYE**

Maximum Range: 3,000 meters

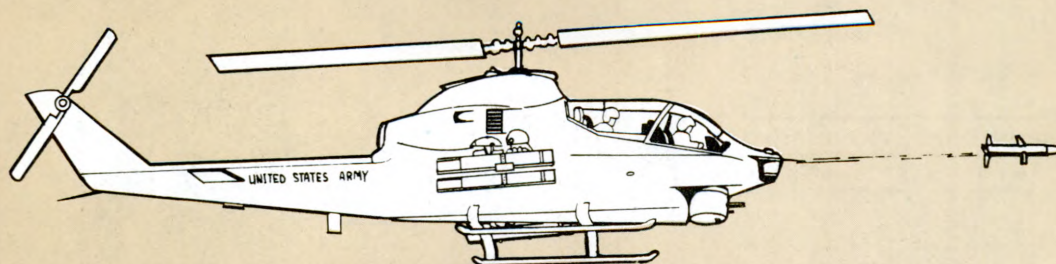
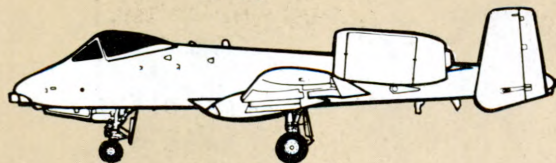
**STINGER**

Maximum Range: More than 3,000 meters

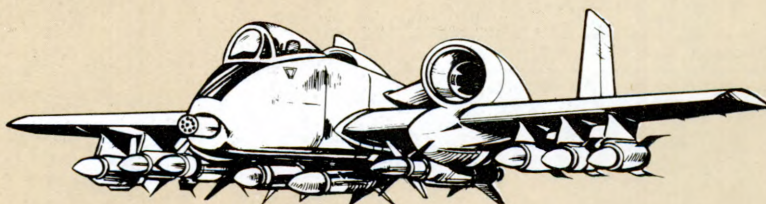
**Air Defense Weapons** protect ground troops from enemy aircraft. Redeye and Stinger, surface-to-air missiles, have high hit probabilities against low-flying aircraft. Longer range missiles and air defense artillery guns form a protective "umbrella" forward of and above the main battle area.

**TOW MOUNTED  
ON A COBRA**

**Attack Helicopters** can maneuver quickly over any terrain to counter a threat or exploit an enemy weakness. Some carry TOWs, which can kill enemy tanks at ranges greater than 3,000 meters. Others carry rockets, machineguns, and automatic 40-mm grenade launchers.

**A-10**

**Air Force Tactical Aircraft** can carry a variety of ordnance — automatic cannon, guided or unguided bombs or missiles, scatterable mines, and napalm.





## CHAPTER 2

# PREPARATION FOR COMBAT

## GENERAL

Leaders use the troop leading procedure to make sure that all necessary steps are taken to prepare for an operation. This procedure helps them make the best use of their time. It should be an automatic way of thinking.



This procedure is not rigid. The order in which steps are taken is changed to fit the situation. Some steps may be done at the same time, while others may be done throughout the operation. A good leader will see that nothing has been overlooked.

## Section I

# STEPS OF THE TROOP LEADING PROCEDURE

Step 1. Receive the mission.

Step 2. Issue a warning order.

Step 3. Make a tentative plan.

Step 4. Start necessary movement.

Step 5. Reconnoiter.

Step 6. Complete the plan.

Step 7. Issue the complete order.

Step 8. Supervise.

### STEP 1

#### RECEIVE THE MISSION

Missions may be received in the form of either a warning order, an operation order (OPORD), or a fragmentary order (FRAG-O). On receipt of the order, a leader analyzes his mission and plans the use of his time.

First instructions are usually in the form of a **warning order**. In the warning order, the leader is given enough information so that his unit can start to prepare.

Unit SOPs should prescribe the actions to be taken when a warning order is received; for example, drawing ammunition, rations, water, and communications gear.

As soon as he has the order, the leader asks himself these questions:

- What is the **MISSION**?
- What is known about the **ENEMY**?
- How will the **TERRAIN** and **WEATHER** affect the operation?
- What **TROOPS** are available?
- How much **TIME** is available?
- What **SUPPLIES** and **EQUIPMENT** are needed?
- What **SPECIAL TASKS** need to be assigned?

He makes a time schedule. As a rule, the platoon leader should take no more than one-third of the available time and leave the rest



for squad preparation. The unit must be told when to be ready. The leader identifies the things that must be done. He works backwards from the time he wants the men to be ready for the mission, allowing his men enough time for each task. This is *reverse planning*. Here is an example of a squad leader's schedule:

- 1420: Ready time.
- 1415: Check assembly area.  
(*Make sure all Claymores are recovered and that no ammunition, etc., is left behind.*)
- 1300: Inspect squad.
- 1205: Issue order to squad.
- 1200: Complete squad order.
- 1105: Reconnoiter with platoon leader/receive order.
- 1050: Issue warning order to squad.

## STEP 2

### ISSUE A WARNING ORDER

The platoon leader issues his warning order to the squad leaders, platoon sergeant, and forward observer. Each squad leader issues his warning order to his entire squad.

The warning order should at least state—

- the mission,
- time of the operation,
- any specific instructions, and
- time and place for issuance of the complete order.

A platoon warning order may be something like this:

OUR MISSION IS TO ATTACK THE TOWN OF BURG AT 1430. THE ENEMY HAS SOME GOOD POSITIONS IN THE BUILDINGS. THERE MAY ALSO BE ENEMY TANKS IN THE TOWN. DRAW SIX GRENADES FOR EACH MAN, AND ONE LAW PER MAN. EACH SQUAD WILL CARRY 10 BLOCKS OF C4, 10 NONELECTRIC BLASTING CAPS, 10 FUSE LIGHTERS, 100 FEET OF DETONATING CORD, AND 10 FEET OF FUSE. THE PLATOON SERGEANT WILL TELL YOU WHERE AND WHEN YOU CAN PICK IT UP. LET ME KNOW BY 1145 IF YOU HAVE ANY PROBLEMS WITH RADIOS OR WEAPONS. MEET ME BACK HERE AT 1105. AT THAT TIME, WE WILL MOVE UP TO THE RIDGE, OVERLOOKING THE TOWN, WHERE I WILL GIVE THE COMPLETE ORDER.

After hearing the platoon leader's warning order, each squad leader gives his squad a warning order like this:

OUR MISSION IS TO ATTACK THE TOWN OF BURG AT 1430 AS PART OF THE PLATOON. THE ENEMY HAS WELL-PREPARED POSITIONS IN THE BUILDINGS AND PROBABLY HAS TANKS WITH HIM. EACH MAN WILL CARRY SIX GRENADES AND ONE LAW IN ADDITION TO THE STANDARD LOAD FOR RIFLES AND GRENADE LAUNCHERS. SERGEANT EVANS, YOUR TEAM WILL HANDLE OUR DEMOLITIONS; DRAW 10 BLOCKS OF C4, 10 NONELECTRIC BLASTING CAPS, 10

FUSE IGNITORS, 100 FEET OF DETONATING CORD, AND 10 FEET OF FUSE. MAKE SURE YOU TEST-BURN THE FUSE. PRIVATE SMITH, CARRY A CLIMBING ROPE AND A GRAPPLING HOOK. SPECIALIST GEORGE, CARRY THE TA-1 AND DRAW TWO ROLLS OF ASSAULT WIRE. THE PLATOON SERGEANT WILL BE HERE IN 20 MINUTES TO TELL US WHERE AND WHEN WE CAN PICK UP OUR AMMUNITION AND EQUIPMENT. I'M LEAVING NOW TO GET THE PLATOON ORDER; SERGEANT JONES IS IN CHARGE UNTIL I GET BACK. WE WILL MEET HERE AT 1205 FOR THE OPOD.

### STEP 3

#### MAKE A TENTATIVE PLAN

Based on **mission, enemy, terrain and weather, and troops available (METT)**, the leader makes a tentative plan. The plan gives him a start point that can be used to coordinate, reconnoiter, organize, and move.

What is a platoon's **MISSION**? (We must attack to seize that objective; or, We must prepare to defend this position by 0400.)

What **ENEMY** troops oppose us? What size units and where are they? What other weapons, artillery, or engineer units do they have in support? Will they be mounted, dismounted, or both?

How can we use the **TERRAIN** and **WEATHER** to our advantage? To get an answer to this question, the leader examines the observation and fields of fire, cover and concealment, obstacles, key terrain, and avenues of approach.

Observation and fields of fire influence decisions on where squads, Dragons, and machineguns must be positioned to kill the most enemy. In the offense, the fire element must be positioned where it can support the maneuver element. In the defense, weapons must have observation and fields of fire covering avenues of approach. The platoon leader also looks at observation and fields of fire from the enemy's point of view. He seeks defensive positions, or routes for an attack, which will be covered and concealed from the enemy's vantage points.

Cover and concealment influence the choice of routes, positions, and targets.

Obstacles also influence the choice of routes in the offense and the choice of positions in the defense.

Key terrain has a bearing on decisions regarding the selection of objectives and routes in offense and on the choice of positions in defense.

Avenues of approach are considered in conjunction with all the other factors. They influence the choice of routes and the direction of attack in the offense; and the assignment of positions, sectors of fire, and targets in the defense. Enemy avenues of approach or withdrawal are viewed as to how they can affect the platoon's operation.

**TROOPS AVAILABLE** have an effect on the selection of positions, routes, and formations, and on the fire plan.

The leader considers each of the factors and compares alternatives. From this analysis, he makes decisions which form the basis for the plan, which, when firm, becomes the order.



#### STEP 4

### START NECESSARY MOVEMENT

At times, the company commander will take the platoon leaders to an OP and give the complete order. To save time, he may have the first sergeant move the platoons, led by the platoon sergeants, toward the site where the operation will take place.

#### STEP 5

### RECONNOITER

To make the best use of his men and weapons, the leader must see and evaluate the terrain on which he will fight. If time is short, he will, at least, make a map reconnaissance. During this reconnaissance, he confirms or modifies his tentative plan.

#### STEP 6

### COMPLETE THE PLAN

Based on the reconnaissance, the leader completes his plan. In a defense, he must decide where to put his weapons and how to tie the defense together. In an attack, he must decide how to move and how to seize the objective.

#### STEP 7

### ISSUE THE COMPLETE ORDER

**Platoon and Squad Orders** are issued orally. For an attack, the platoon leader should give his order from a point where the squad leaders can see the objective. In a defense, he will try to give the order on the ground where his troops will defend. When this is not possible, the platoon leader should use either a terrain model or a sketch to help explain the order. A squad leader rarely has a chance to give an attack order from a position that lets his men see the objective. He should, however, make a terrain model for his squad to look at while he gives the order. Like the platoon leader, squad leaders can often give their defense orders on their defensive positions. Leaders must make sure that all their men know the plan.

Below is the format for an order. Orders should be given in language the men understand.

#### Situation

**Enemy forces.** Information such as locations, strength, weakness, and activity.

**Friendly forces.** The mission of the next higher unit (**company in the platoon order, and platoon in the squad order**); and units to the left, right, and rear (**platoons in the platoon order, and squads in the squad order**).

**Attachments and detachments.** Who they are and the effective time of attachment or detachment.

#### Mission

A clear, concise statement of the task to be accomplished by the squad or platoon (**who, what, when, where, and why**).

#### Execution

**Concept of operation.** The scheme of maneuver and the fire support plan. How the leader wants the unit to accomplish the mission.

**Tasks for subordinate units.** The platoon leader tells each squad what he wants it to do. The squad leader tells each fire team or each man what he wants it or him to do.

**Coordinating instructions.** Platoon leaders give details that apply to two or more squads. Each squad leader gives details that apply to his entire squad. Example details are: line of departure, assault position, formation, route, time of departure, and actions during consolidation and reorganization.

### Service support

Information about rations, ammunition, medical support, handling of prisoners of war (PW), and other administrative and supply matters.

### Command and signal

**Command.** Where the leader will be during the operation, and the chain of command (the order in which subordinate leaders take charge of the unit in the absence of the leader).

**Signal.** Frequencies and callsigns, signals, challenge and password, code words.

## STEP 8

### SUPERVISE

After the order is issued, leaders supervise to make sure that their men are preparing to get the job done.

#### Rehearsals

If there is enough time before an operation, platoon leaders should have squads rehearse tasks they will perform. This gives confidence and improves performance. It may also point out problems in the plan. **Important tasks to rehearse may be—**

- fire and maneuver,
- actions on unexpected enemy contact,
- actions at the assault position,
- actions in the assault,
- breaching a minefield,
- assaulting a trench,

- breaching wire obstacles,
- assaulting a bunker or a building, and
- using special weapons or demolitions.

If possible, rehearsals should be on terrain resembling that on which the unit will fight and under the expected light condition.

#### Inspections

The last thing done before an operation is an inspection to see if the men and equipment are ready. **This may include:**

- Rations.
- Water.
- Weapons.
- Ammunition.
- Individual uniform and equipment.
- Camouflage.
- Mission-essential equipment (*demolitions, starlight scopes*).

Leaders ask questions to see if their men know their duties, if only necessary equipment is carried, and if it is worn right and secured.

Once the operation has begun, the leader must see that the plan is followed, but he should be ready to change his plan if the situation requires it.



## CHAPTER 3

# THE OFFENSE

### GENERAL

The purpose of the offense is to destroy the enemy and his will to fight. Infantry platoons and squads usually attack as part of a larger force. They use fire and maneuver to close with and destroy the enemy. **Infantry platoons are best used to —**



- **fight troops in well-prepared or fortified positions;**
- **attack in cities, forests, jungles, and mountains, which restrict movement of mechanized and armor units;**
- **move by stealth to seize key terrain in the enemy's rear;**
- **raid to destroy key installations, disrupt logistics, or free prisoners; and**
- **clear areas bypassed by mechanized units.**

## Section I

## HOW THE ENEMY DEFENDS

## INTRODUCTION

As described in chapter 1, the enemy prefers the offense, and will defend only until conditions are right to attack. This does not mean that the enemy is unskilled in the defense. Enemy soldiers are constantly drilled in the defense. As soon as their attack stops, they start to prepare defensive positions. They work on these positions until ordered to move.

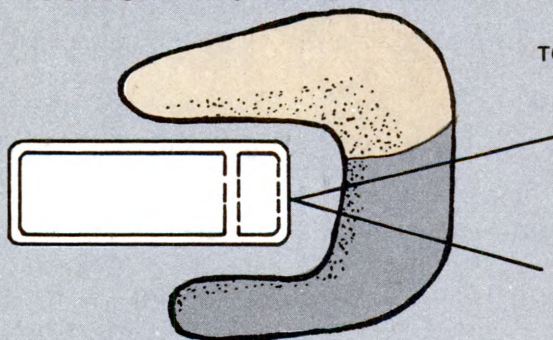
DEFENSIVE  
POSITIONS

**One-Man Foxhole.** As soon as they stop, enemy troops prepare prone foxholes. These foxholes are dug where cover and concealment can protect them. The foxhole is large enough and deep enough to cover the soldier. A firing platform is left to support the elbows. Fire is directed toward the front.

SIDE VIEW

A SINGLE PRONE FOXHOLE

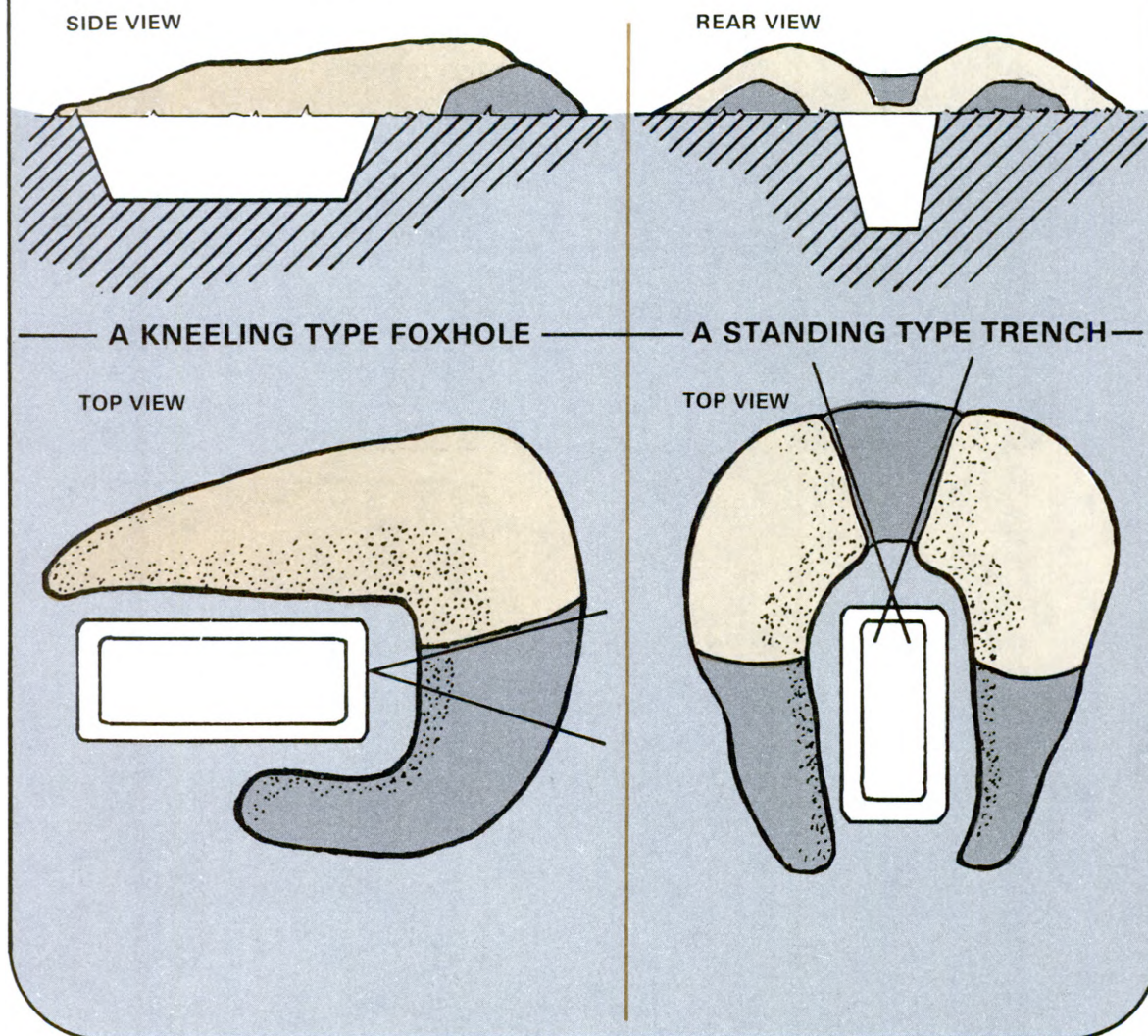
TOP VIEW





## DEFENSIVE POSITIONS CONTINUED

In time, the prone foxhole is dug into a kneeling foxhole, and then into a standing foxhole. Dirt taken from the hole is packed around its sides to form a parapet. The parapet protects the soldier from small arms fire and shell fragments. It lets him shoot in any direction. A firing port is built in the principal direction of fire.



It will usually take the enemy 30 minutes to prepare prone foxholes, 1½ hours to prepare kneeling foxholes, and from 1½ to 2½ hours to prepare standing foxholes.

These positions will be camouflaged and made mutually supporting by overlapping sectors of fire. Overhead cover may be built before further improvements are made.



## DEFENSIVE POSITIONS CONTINUED

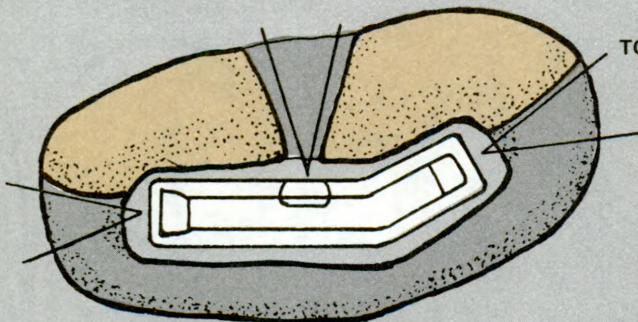
REAR VIEW



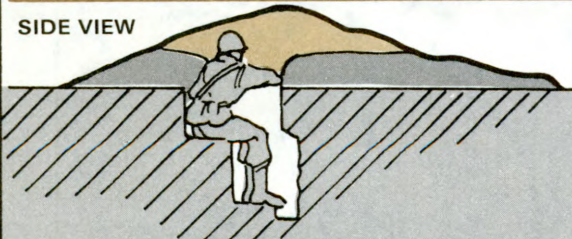
**Two- or Three-Man Foxholes.** In time, the one-man foxholes are connected by trenches and made into two- or three-man positions. Two or three firing ports are dug, along with firing steps and ammunition pits. The position may be bent like a dog leg. A rear parapet is also built. Sectors of fire are to the front and to each side. Overhead cover and concealment are added. Fields of fire are cleared. All this takes about 4 hours.

— TWO- OR THREE-MAN FOXHOLE —

TOP VIEW



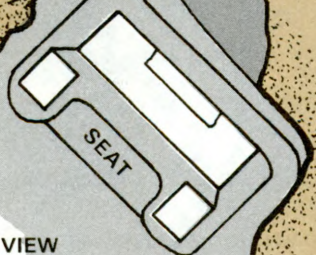
SIDE VIEW



— SNIPER FOXHOLE —

DIRECTION OF  
FIRE AND  
OBSERVATION

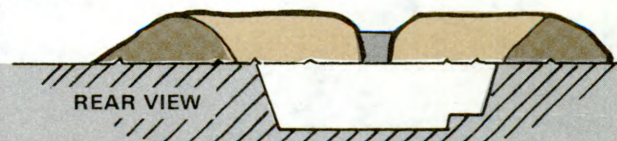
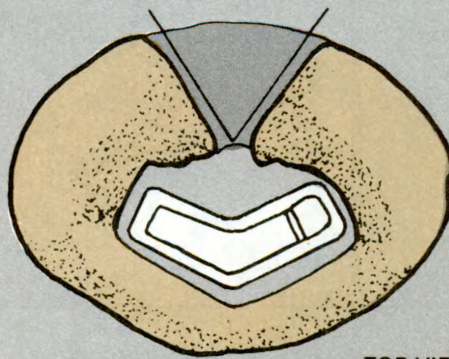
SNIPER'S  
SHIELD



TOP VIEW

**Special Purpose Foxholes.** Other foxholes which may be found are the sniper foxhole, the light machinegun foxhole (which can be used as an RPG position), and the mortar position.

REAR VIEW

— LIGHT MACHINEGUN  
EMPLACEMENT —

TOP VIEW

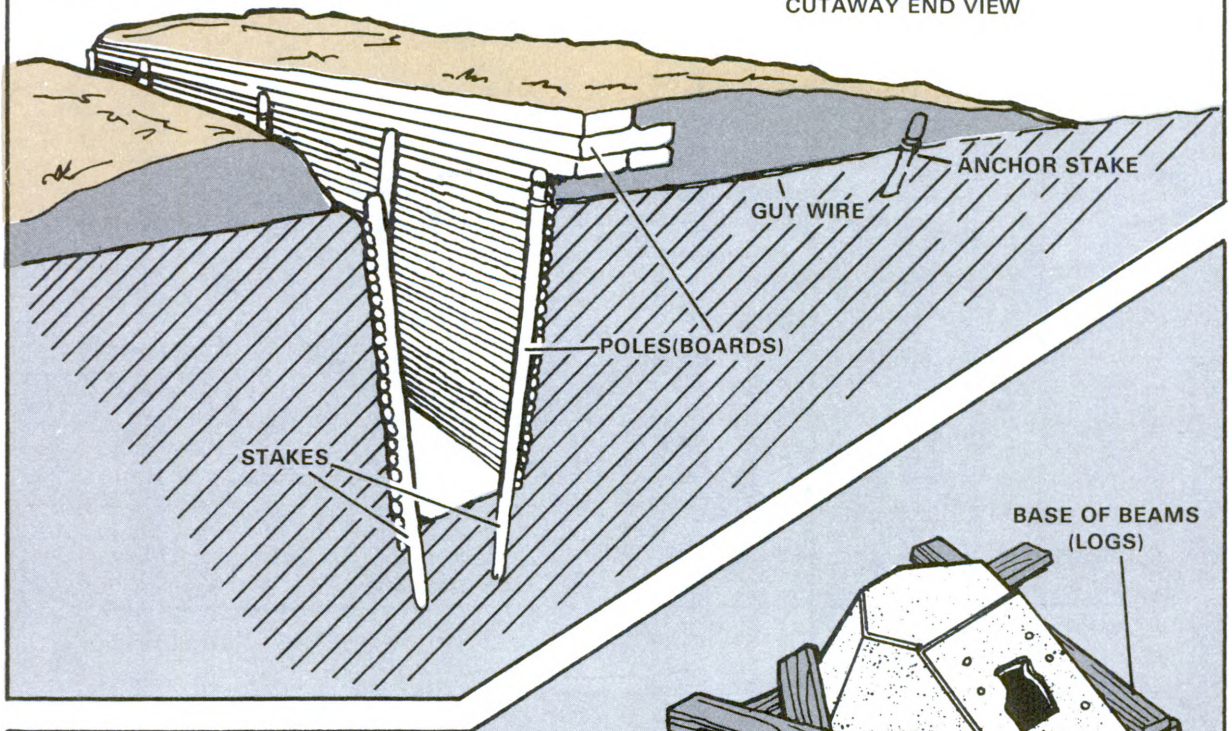


DEFENSIVE POSITIONS CONTINUED

**Trenches and Bunkers.** As positions are improved further, they will be connected by zigzag trenches and revetted with poles or sandbags to prevent cave-in.

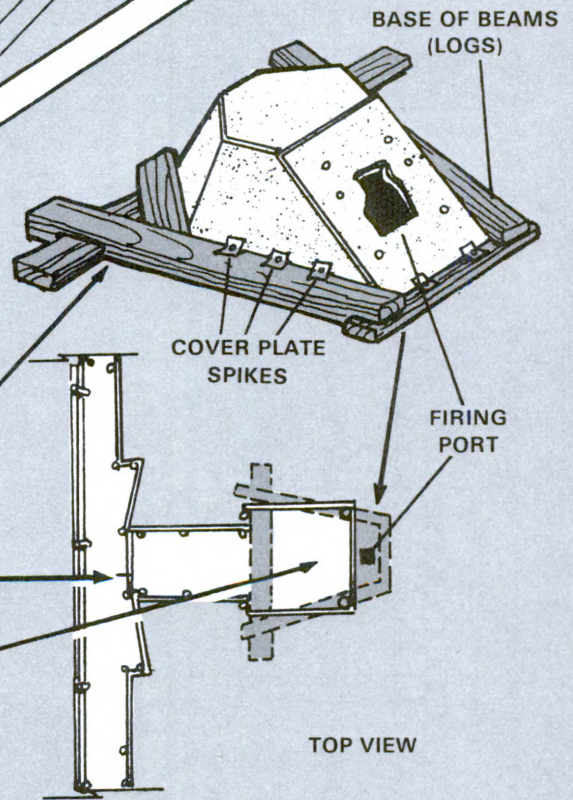
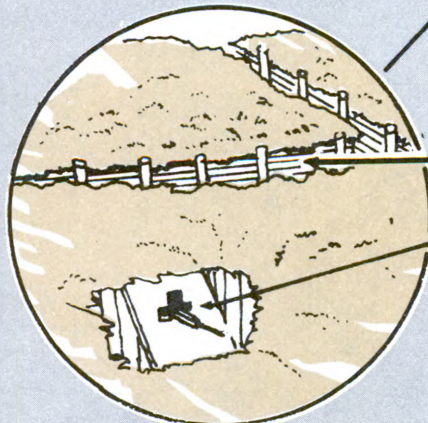
**REVETMENT OF SLOPES WITH POLES**

CUTAWAY END VIEW



The next step is to convert the positions into bunkers by building overhead covers for their firing ports.

**ARMOR COVER**



TOP VIEW

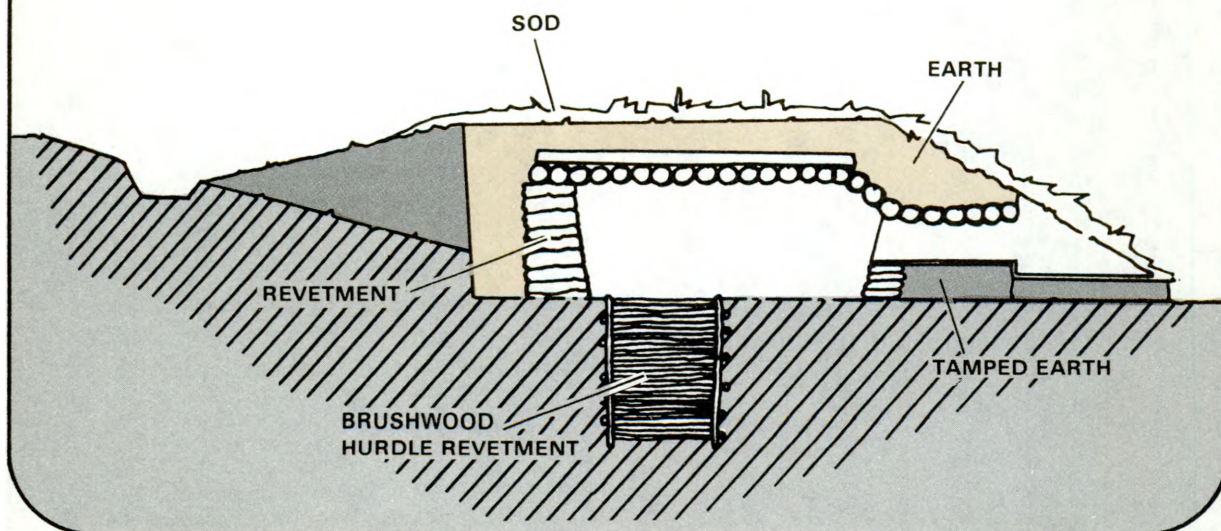


## DEFENSIVE POSITIONS CONTINUED

## PACKED-EARTH BUNKER

CUTAWAY SIDE VIEW

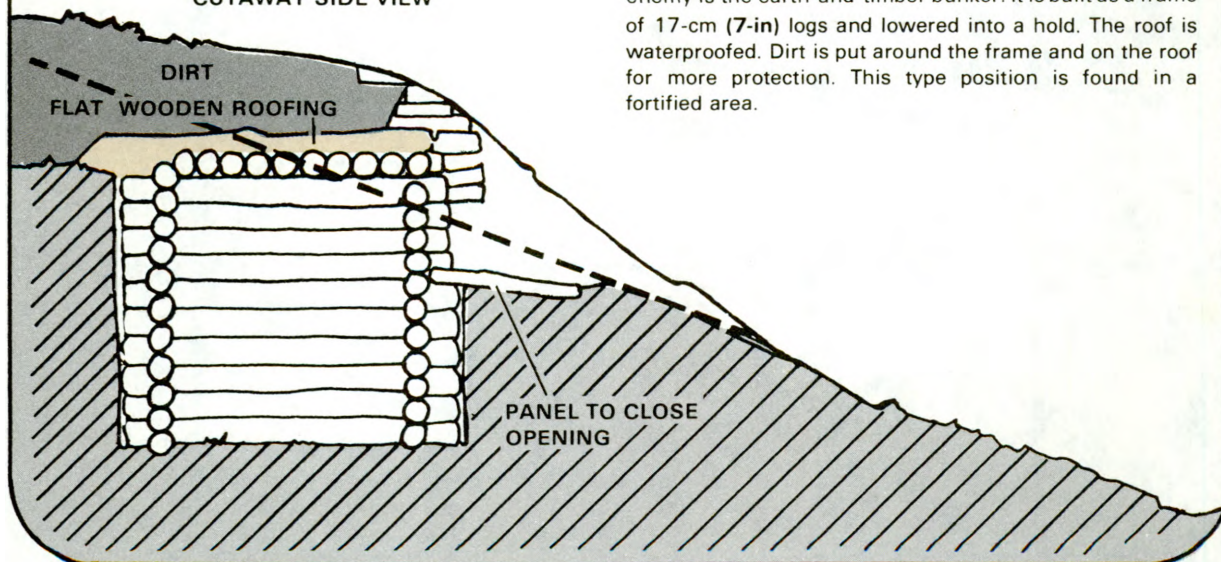
The packed-earth bunker is an improvement of the open type emplacements just described. This bunker is built by troops with entrenching tools, using packed earth, sod, or stone. Overhead cover is build of logs 13 cm (5 in) thick, covered with earth and sod. The time needed to build and camouflage them is 2 to 3 days. Packed gravel or sand may be used for more protection.



## EARTH AND TIMBER BUNKER

CUTAWAY SIDE VIEW

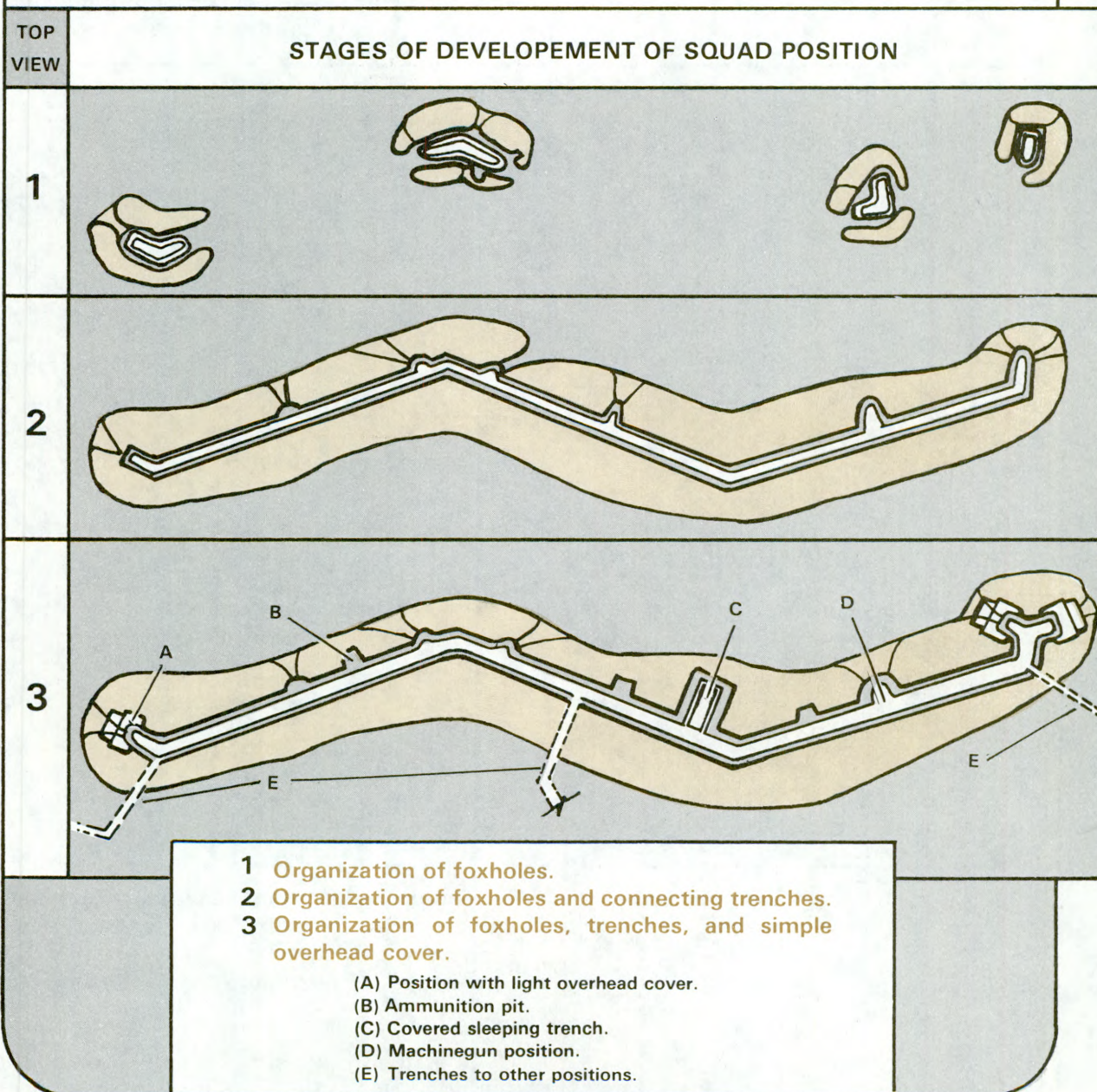
The most common engineer-built bunker used by the enemy is the earth-and-timber bunker. It is built as a frame of 17-cm (7-in) logs and lowered into a hold. The roof is waterproofed. Dirt is put around the frame and on the roof for more protection. This type position is found in a fortified area.





## DEFENSIVE POSITIONS CONTINUED

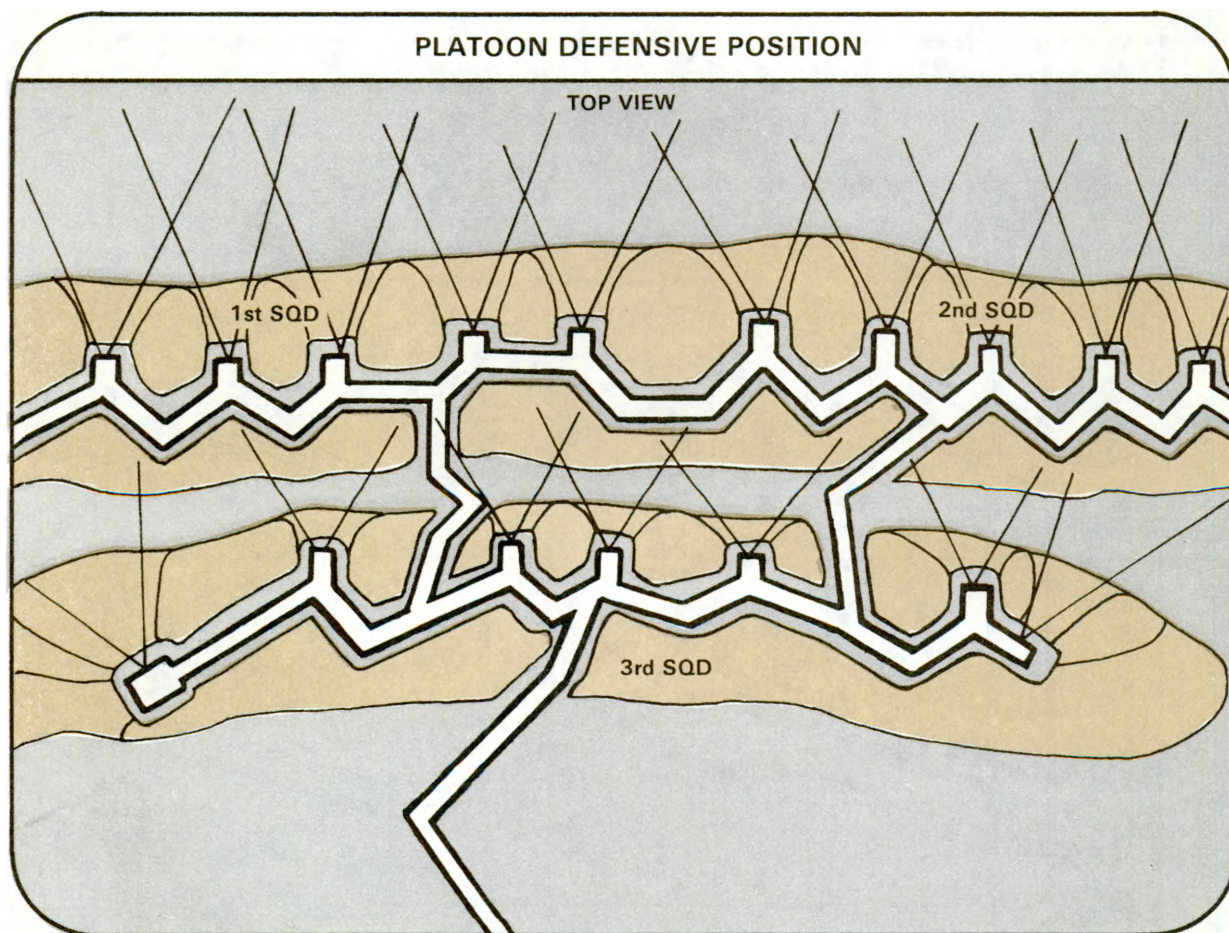
**Unit Defensive Positions.** An enemy squad defends a front of 60 to 100 meters as part of its platoon. A squad's position will include the fighting positions, ammunition pits, and covered trenches for sleeping. Armored vehicles, if present, are dug-in at the squad position. Ditch diggers and explosives may be used to help squads dig in. Leaders prepare fire plans. Each squad has both a sector of fire and a final protective line for its machinegun to support the squads on its flanks.





All or part of one squad may be sent out as the platoon security element. It will be about 600 meters forward of the platoon position during the day, and 200 meters at night.

The platoon defends as part of its company. It usually occupies a strongpoint 400 to 700 meters wide. This strongpoint includes squad positions, firing positions for armored vehicles and attached weapons (if



present), and a command post. Primary and alternate positions are prepared. Connecting trenches are dug so that men can move in the strongpoint without exposing themselves to fire.

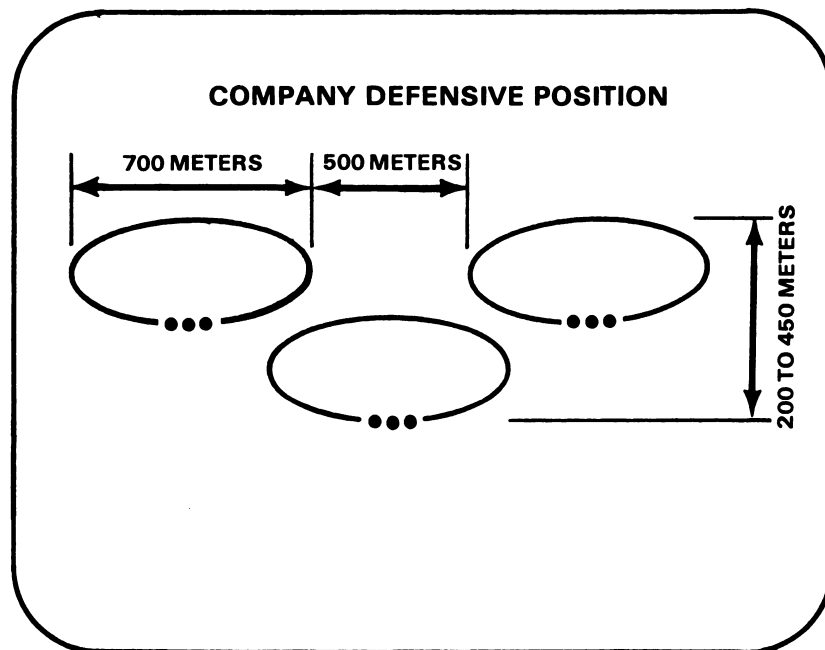
A platoon may also be sent forward as security for the battalion. It may be



reinforced with antitank guns, tanks, engineers, or NBC troops. In its security role, the platoon may be 2,000 meters forward of the battalion, and will occupy outposts on a 500-meter front.

A company defensive position will include mutually supporting platoon strongpoints. There may be as much as 500 meters between platoons. Gaps between the platoons are covered with artillery, antitank fire, and belts of mines and obstacles. Patrols are run between positions to prevent hostile infiltration.

The strongest form of the company defense occurs when the entire company prepares and occupies a strongpoint which may have a front as small as 500 meters or as large as 1,500 meters. These are prepared on ground dominating an approach. Mutually supporting antitank weapons are deployed in depth. The strongpoint is built around two main trenches. The first is occupied by the two forward platoons and the second is occupied by the rear platoon. Alternate or supplementary positions are dug behind the main trench. Connecting trenches are dug between the main trenches.



### CONDUCT OF THE DEFENSE

Troops who attack these positions may encounter small arms fire, mortars, artillery, antitank missiles, antitank guns, and tanks. When the attack is in small arms range (about 400 meters), artillery barrages are fired. Defending troops stay in place until overrun or told to withdraw to alternate or supplementary positions.

If driven out of their positions, enemy troops will try to win them back by a counterattack. A counterattack is normally reinforced with tanks and reserves.

If forced to withdraw, the enemy will use overwatch, obstacles, and ambushes to delay the attack.

## Section II

# MOVEMENT

### INTRODUCTION

Infantry platoons spend more time moving than fighting. Moving carelessly may cause a unit to make contact when unprepared. This can cause a loss of the initiative and needless loss of lives.

To gain and keep the initiative, squads and platoons apply these fundamentals of movement:



- Move on covered and concealed routes.



- Do not move directly forward from covered positions.



- Avoid likely ambush sites and other danger areas.

- Enforce camouflage, noise, and light discipline.

- Have all-round security, to include airguards.

- Make contact with the smallest element possible.

A platoon makes contact through its lead squad — a squad through its lead fire team. This limits a platoon's exposure to enemy fire and puts it in a good position to react to enemy contact. It lets squad and platoon leaders develop the situation and keep the initiative.



## MOVEMENT TECHNIQUES

The movement technique is based on the likelihood of enemy contact.

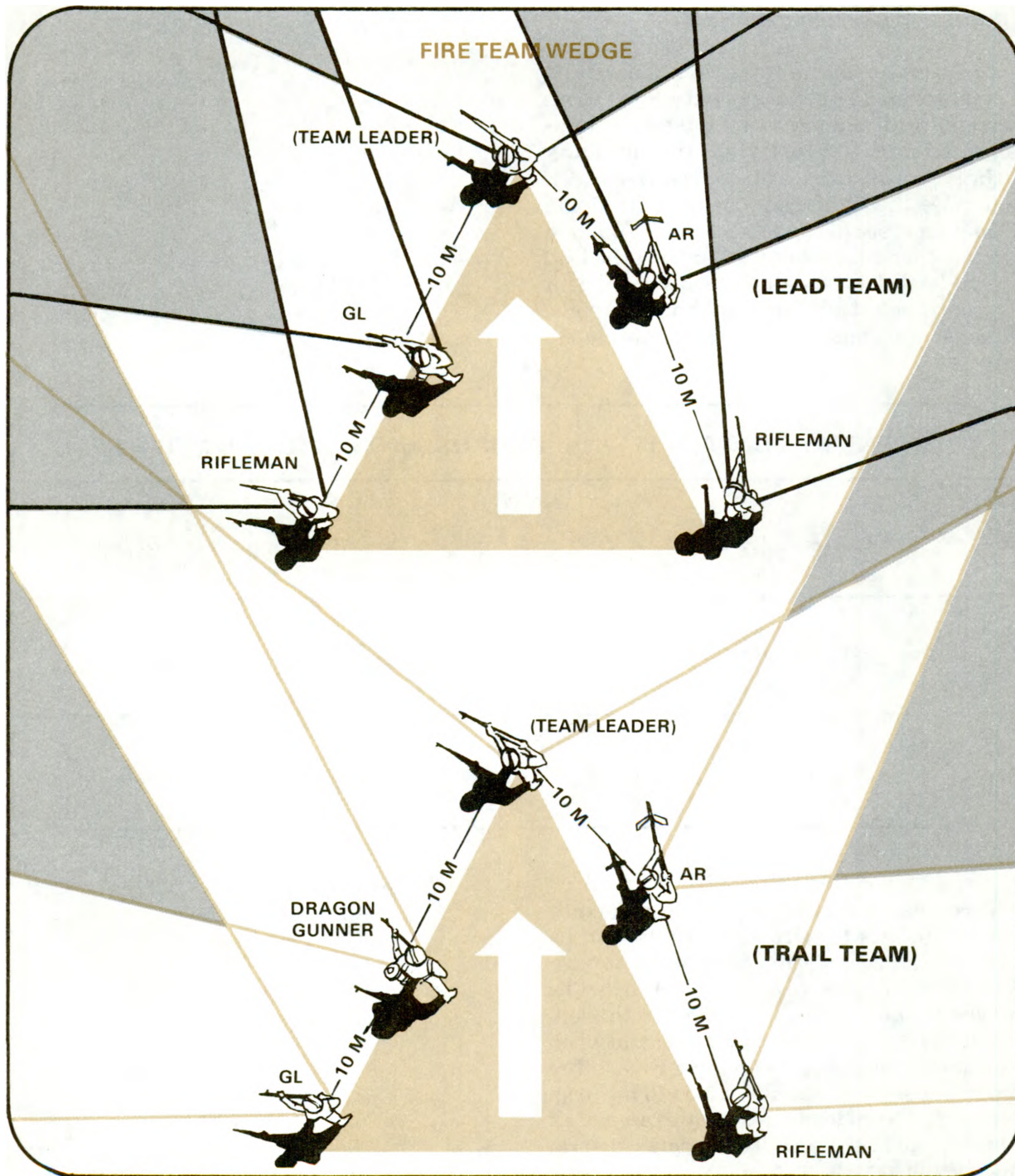
Movement techniques are not fixed formations. Distances between men, teams, and squads vary based on mission, enemy, terrain, visibility, and any other factor that affects control. Men must see their fire team leader. The squad leader must see his team leaders. The platoon leader should be able to see at least the lead squad leader. Most of a platoon's movement is controlled with arm-and-hand signals. Radios are used only when absolutely necessary.

WHEN ENEMY CONTACT IS —	SQUADS AND PLATOONS MOVE BY —
Not likely	Traveling
Possible	Traveling Overwatch
Expected	Bounding Overwatch

Fire teams move in a wedge formation. This lets the fire team leader lead by example. He controls his fire team by saying, FOLLOW ME AND DO AS I DO. When he moves to the left, his men move to the left; when he gets down, they get down; and when he shoots, they shoot. If he has time, a fire team leader gives specific orders to his men. As the fire team leader leads by example, all his men must see him. The normal interval between men is 10 meters.

Terrain or poor visibility may cause temporary change of the fire team wedge. It may be necessary to close the sides of a wedge together to almost single file to move up a

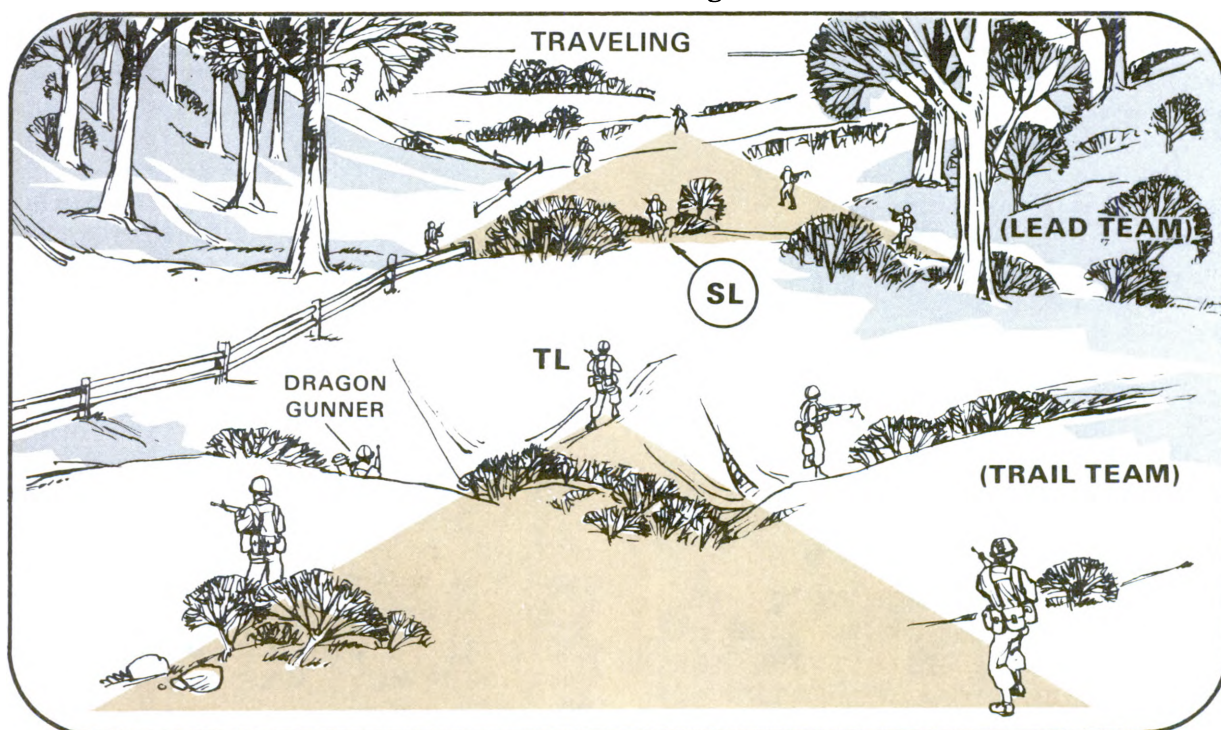
narrow mountain pass, through a minefield, and through heavy brush or when visibility is poor. As soon as men can see and move better, the wedge spreads without command.



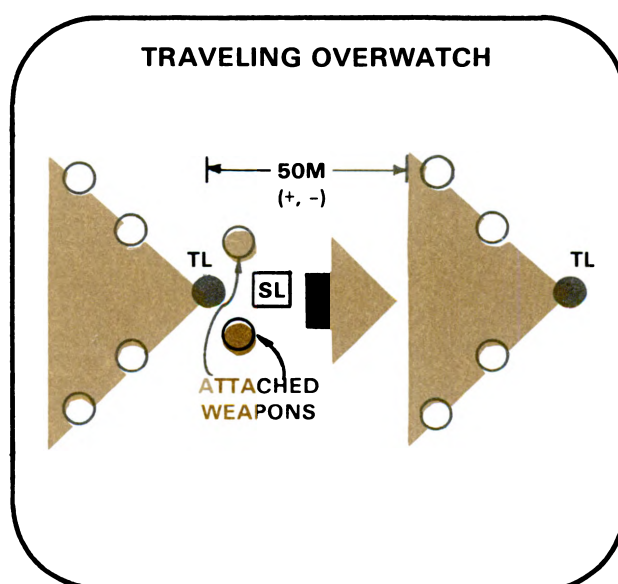


**Squad Movement Techniques.** A squad normally moves with one fire team following the other. Both teams use the wedge formation for all movement. The squad leader positions himself where he can best control his squad.

**Traveling** is used when contact with the enemy is not likely and when speed is necessary. One fire team follows the other — about 20 meters behind, depending on terrain and visibility. When **traveling**, a squad leader may be with the lead fire team for navigation and control.



**Traveling Overwatch** is used when enemy contact is possible. The trail team follows the lead team by about 50 meters. If the lead team is shot at, the trail team is far enough to its rear so it is not hit by the same fire, yet close enough to support the lead team. When in **traveling overwatch**, the squad leader is normally at the front of the trail team. This lessens his chance of being pinned down by the enemy's first fire and lets him react to the situation with fire or maneuver of the trail fire team. He may temporarily move up to the lead team when visibility is poor. Weapons attached to the squad are usually kept under the direct control of the squad leader. They stay close to him so he can employ them quickly. To avoid being pinned down by enemy fire, they do not move with the lead fire team.



**Bounding Overwatch** is used when contact is expected, when the squad feels the enemy is near (**movement, noise, reflection, fresh tracks, trash, even a hunch**), or when a danger area must be crossed. One fire team moves forward (**bounds**) while the other team overwatches from a position where it can support the bounding team. The key is the use of terrain. The overwatch position must dominate the route which the bounding team will take. The bounding team must stay within supporting range of the overwatching team. A bound is usually no more than 150 meters forward of the overwatching team so that the overwatching team can shoot at targets beyond the bounding team.

Usually, the lead fire team overwatches first. Each man takes a position which gives him cover, concealment, and a good field of fire.

Before a team bounds, the squad leader must give instructions. The overwatching team leader must know the route and destination of the bounding team. The bounding team leader must know where his team is to move, the route, and what to do when he gets there. He must know where the squad leader and overwatching team will be, and how he will get his next instructions.

The amount of cover on the bounding team's route determines how its men move.

#### HERE'S AN EXAMPLE OF A SQUAD LEADER'S ORDER TO BOUND

ALPHA TEAM SAW MOVEMENT IN THE TREES 100 METERS TO THE RIGHT FRONT, BUT WE CAN'T SEE IT NOW.

● ALPHA TEAM, OVERWATCH FROM WHERE YOU ARE NOW. BE SURE YOUR MEN CAN SHOOT INTO THE TREES WHERE YOU SAW THE MOVEMENT.

● BRAVO TEAM, BOUND AROUND TO THE RIGHT, THROUGH THE BRUSH ALONG

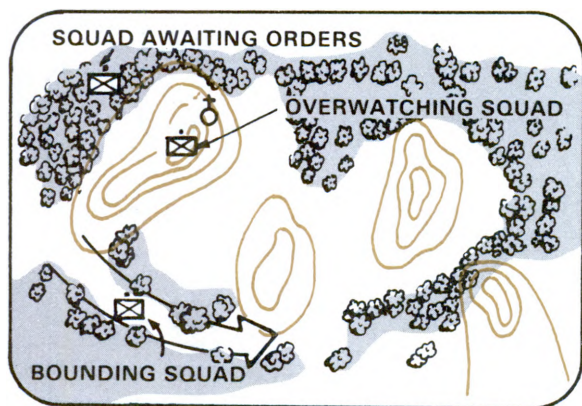
THIS SIDE OF THAT STREAM UNTIL YOU GET TO THAT BIG ROCK ABOUT 75 METERS AWAY. OVERWATCH FROM THERE. BE READY TO SHOOT INTO THE WOODS WHERE THE MOVEMENT WAS SEEN. I'LL BE WITH THE OVERWATCH WHILE YOU MOVE. WHEN YOU ARE IN POSITION, I'LL COME UP WITH ALPHA TEAM AND GIVE YOU YOUR NEXT ORDERS. ANY QUESTIONS?





**Bounding Overwatch** is used when contact is expected. Each squad is given a job. These jobs are usually changed with each bound:

■ **One squad bounding.** One squad bounds forward to a place where it becomes the overwatch, unless contact is made en route. This is the squad which should find the enemy. The length of a bound depends on terrain, visibility, the range of the overwatching weapons, and the ability of the platoon leader to control his squads. The bounding squad may use either **squad traveling overwatch** or **bounding overwatch**. This will depend on the time available to complete the bound and the terrain they move through.



■ **One squad overwatching.** One squad overwatches the bounding squad from covered positions from which it can see and shoot at likely enemy positions. It can fire at once if the bounding squad makes contact. The platoon leader normally stays with the overwatching squad and positions machine-guns and Dragons to support the bounding squad.

■ **One squad awaiting orders.** Ideally, one squad is uncommitted and ready for employment as the platoon leader may direct. The platoon sergeant and the leader of the squad awaiting orders normally position themselves close to the platoon leader who is with the overwatching squad. If contact is made, leaders are in position to get orders quickly and look at the terrain.

When deciding where to have his bounding squad go, a platoon leader considers —

- where the enemy is likely to be,
- the mission,
- the routes to the next overwatch position,
- the ability of an overwatching unit's weapons to cover the bound,
- responsiveness of the rest of the platoon, and
- the fields of fire at the next overwatch position.

A squad bounds no more than 200 meters so that all weapons with the overwatching squad can support. The FO stays with the overwatching squad, ready to call for fire.

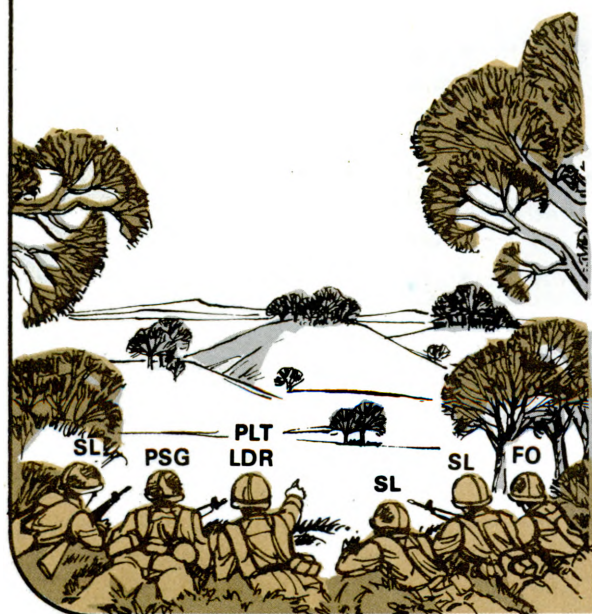
There are different ways to bound. A platoon leader can have the squad awaiting orders also move to an overwatch position. In close terrain, where there are no good overwatch positions, a platoon leader may have the lead squad use **squad bounding overwatch** with the trailing squads **traveling** or in **traveling overwatch**. He may attach a machinegun to the lead squad for more firepower and then have it set up overwatch at the first good place.

**Orders.** Before a bound, the platoon leader gives instructions to his squad leaders from the overwatch position. He tells and shows them:

- The direction or location (if known) of the enemy.
- The positions of the overwatching squad.
- The next overwatch position.

- The route of the bounding squad.
- What to do after the bounding squad reaches the next position.
- How they will get their next orders.

HERE IS AN EXAMPLE OF A PLATOON LEADER'S  
ORDER FOR BOUNDING OVERWATCH



I EXPECT CONTACT IN THAT AREA. THE ENEMY MAY BE ON ONE OF THOSE HILLS TO OUR FRONT, SO WE WILL MOVE FROM HERE BY BOUNDING OVERWATCH.

FIRST SQUAD, OVERWATCH FROM THIS POSITION.

SECOND SQUAD, MOVE THROUGH THOSE TREES TO THE LEFT AND CHECK OUT THAT SMALL HILL 100 METERS TO OUR FRONT. IF YOU DO NOT MAKE CONTACT, SET UP AN OVERWATCH ON THE HILL. WHEN YOU ARE IN POSITION, I WILL MOVE UP WITH 1ST AND 3D SQUADS, AND GIVE YOU YOUR NEXT ORDERS.

THIRD SQUAD, MOVE UP BEHIND 1ST SQUAD AND AWAIT ORDERS.

PLATOON SERGEANT, POSITION YOUR MACHINEGUN AND DRAGON TO THE RIGHT OF 1ST SQUAD. I WILL POSITION MINE TO THE LEFT OF 1ST SQUAD. ANY QUESTIONS?

**Key Weapons** in a platoon are the M60 machineguns and the Dragons. The platoon leader usually retains direct control of at least one machinegun and one Dragon, which travel right behind him. **This is done —**

- so they will be immediately responsive to the platoon leader,
- to make it easier to support the lead squad if it makes contact, and
- so the support weapons will not be pinned down by fire shot at the lead squad.

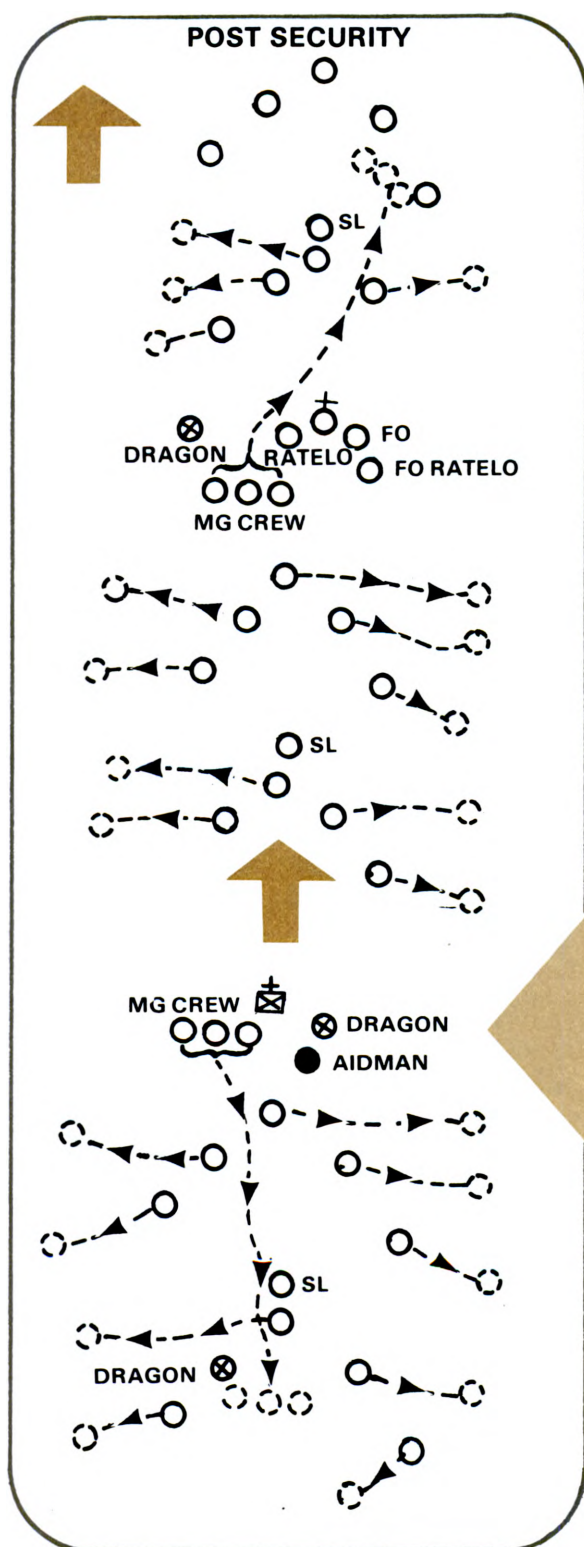
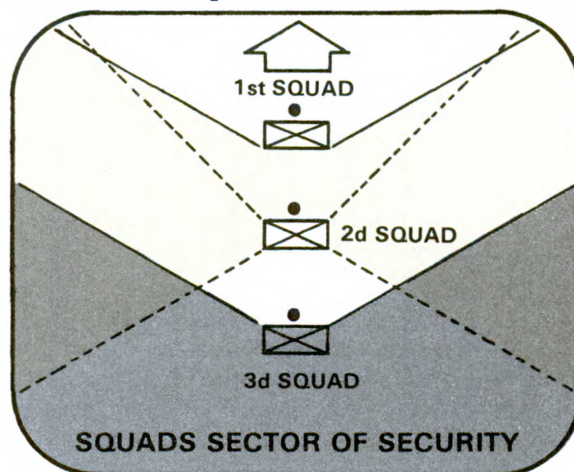
The platoon leader may have the platoon sergeant control one machinegun and one or two Dragons. This disperses them, yet allows for their quick employment when needed.

A machinegun is not attached to the lead squad unless the platoon leader sees a need for the lead squad to change to **bounding overwatch** a short distance ahead, or when the rest of the platoon cannot support the lead squad. The platoon leader normally controls the lead squad's Dragon since the lead squad is not likely to be moving on a route with good fields of fire for Dragons.



## SECURITY

During movement, squads within the platoons, and platoons within the company, are each responsible for a sector of security based on their positions in the formation.



During halts, a platoon must post security and cover approaches into its sector with key weapons. For long halts, the platoon sets up a perimeter defense and mans OPs. Soldiers dig in and camouflage as time permits. Patrols are sent out to reconnoiter around the perimeter.

## MOVEMENT WHEN VISIBILITY IS LIMITED

At night or when visibility is poor, a platoon may have to move to keep pressure on an enemy, to preserve secrecy, to surprise the enemy, or to deny him time to reorganize.

Movement techniques depend on the ability to see and control, as well as on the likelihood of contact. Some ways to control when visibility is poor are:

- Reduce intervals between men and between units to make sure they see each other.
- Move leaders farther to the front.
- Slow down.
- Use night vision devices.
- Use two small strips of luminous tape on the rear of each helmet so each man can see the man in front of him.

To make navigation easier, **squads and platoons —**

- use compasses to maintain direction,
- use a paceman to measure distances traveled,
- choose routes that parallel identifiable terrain features,
- move from one landmark to another (they are picked during planning),
- use guides or marked routes when possible,
- have an artillery round fired on a known terrain feature to orient a moving unit (the platoon leader must be sure that no friendly units are on that terrain feature), and

- have SOPs for sound and visual signals.

For secrecy and security in night moves, **squads and platoons —**

- mask the sounds of movement with artillery fire;
- allow no smoking, no lights, and no (unnecessary) noise;
- use radio listening silence;
- camouflage men and equipment;
- use smoke to hide the unit;
- use terrain to avoid detection by enemy surveillance or night observation devices; and
- take frequent listening halts.

## A PLATOON MOVING AS PART OF ITS COMPANY

A platoon moves most of the time as part of its company. The lead platoon uses the movement technique that suits the likelihood of contact. It must protect the company from the front, prevent delay, and clear the route. It reacts with fire and maneuver if contact is made.

When not in the lead, a platoon will use **traveling** or **traveling overwatch**. It must be ready to support the lead platoon if contact is made.

The company commander may have a platoon send a squad to reconnoiter a danger area, or to secure one of the company's flanks.

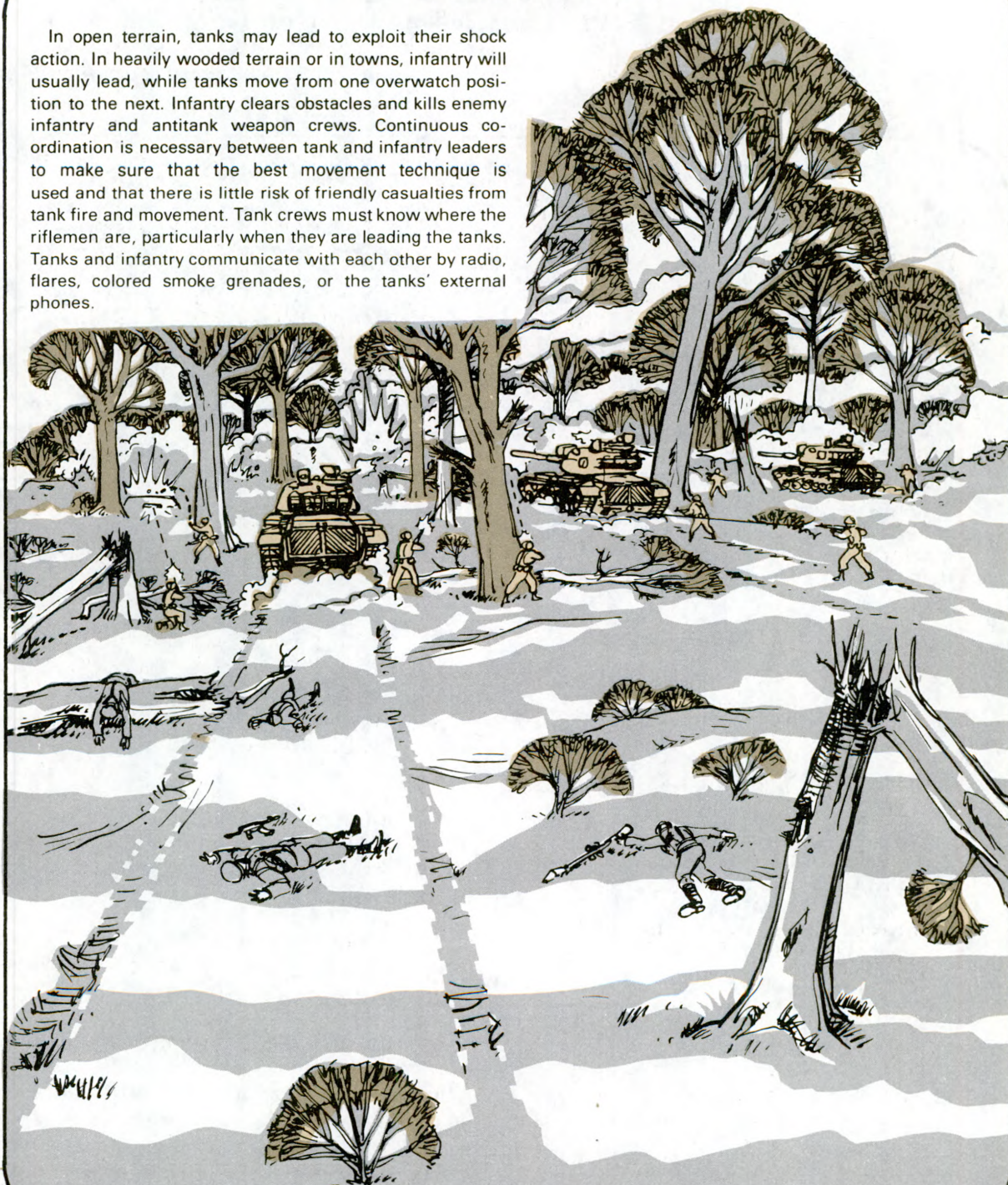
## MOVING WITH TANKS

When moving with tanks, infantry modifies its movement techniques to take advantage of the strengths of the tanks.



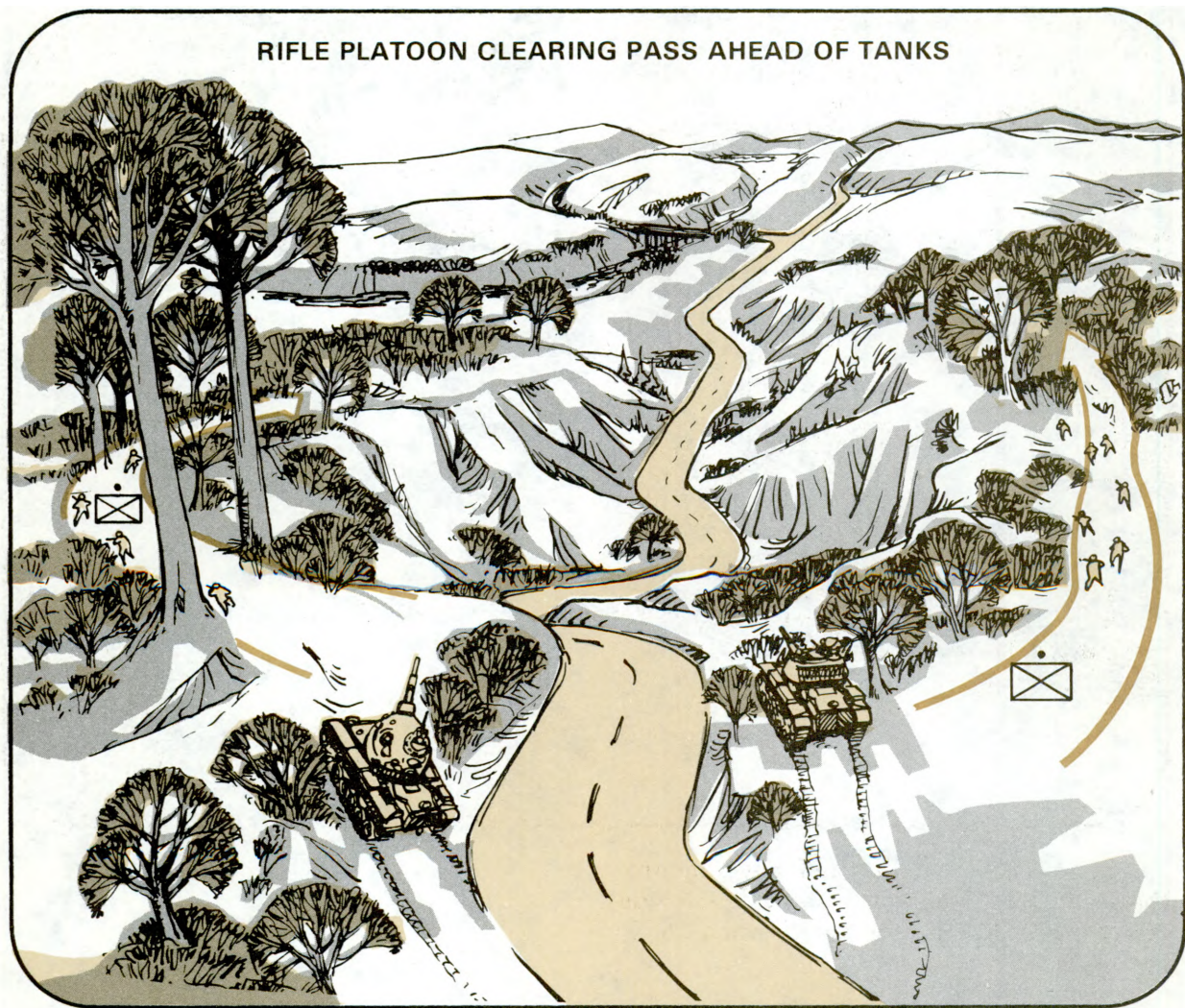
## MOVING WITH TANKS

In open terrain, tanks may lead to exploit their shock action. In heavily wooded terrain or in towns, infantry will usually lead, while tanks move from one overwatch position to the next. Infantry clears obstacles and kills enemy infantry and antitank weapon crews. Continuous coordination is necessary between tank and infantry leaders to make sure that the best movement technique is used and that there is little risk of friendly casualties from tank fire and movement. Tank crews must know where the riflemen are, particularly when they are leading the tanks. Tanks and infantry communicate with each other by radio, flares, colored smoke grenades, or the tanks' external phones.





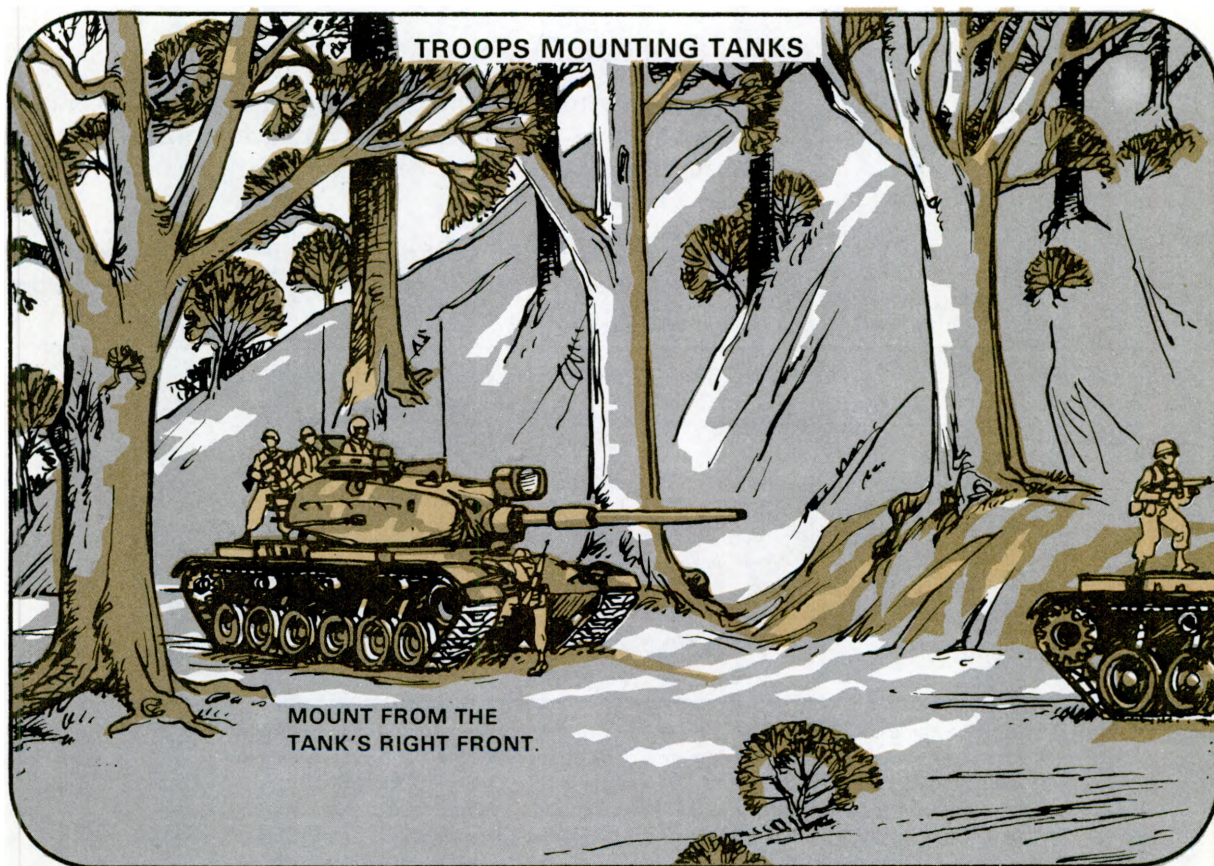
Narrow passes or defiles are danger areas for tanks. The rifle platoon secures the edges of the defiles, using **bounding overwatch**. Infantry looks for mines, RPGs, Sappers, and enemy tanks. Tanks are positioned and ready to shoot at once to support squads if they make contact.



When tanks and infantry must advance quickly and enemy contact is not likely, riflemen may ride on the tanks' decks. Men on tanks, however, are vulnerable to all types of fire. Riflemen who ride on tanks reduce the tanks' maneuverability and firepower. The infantrymen must dismount as soon as they come under fire, or to clear danger areas.



When mounting a tank, troops must **always** get permission from the tank commander and mount from the tank's right front, not its left side where the coax machinegun is. Once mounted, they move to the rear deck, stand, and hold onto the bustle rack.



If there is not enough room for everyone on the back deck, some may stand beside the turret and hold onto the hatches and hatch openings.

Everyone must be alert for obstacles which may cause the tank to turn suddenly, for trees which may knock men off the tank, and for the appearance of targets which may cause the tank to traverse its turret quickly and fire.

Riding on tanks is always hazardous and should only be done when the risks of riding are outweighed by the advantages of riding.



## Section III

# FIRE AND MANEUVER

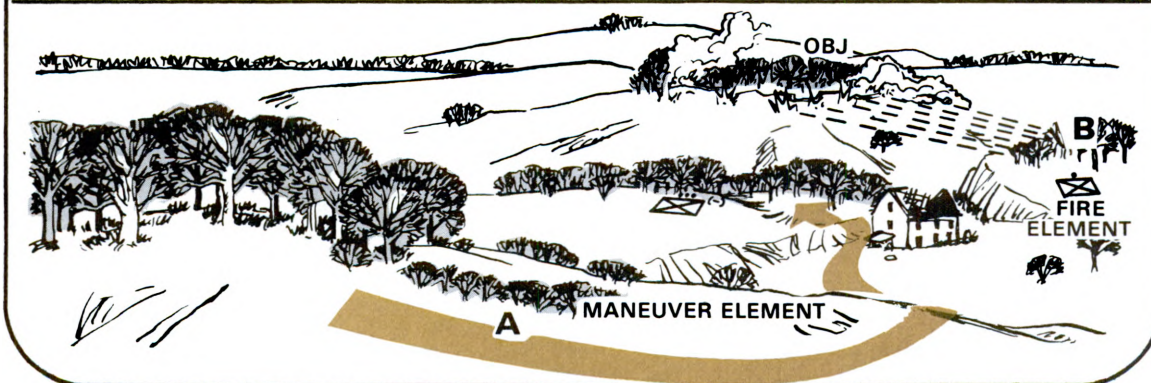
### INTRODUCTION

When a platoon or squad makes contact with the enemy, the movement technique stops, and fire and maneuver begins. However, fire and maneuver are an extension of **bounding overwatch**.

**Fire and maneuver** are conducted to close with and destroy the enemy, to learn more of his strength and disposition, or to move away from him.



Fire and maneuver are both acts which take place at the same time. A **fire element** covers the move of the maneuver element, by shooting at the enemy. A **maneuver element** moves either to close with the enemy or to move to a better position from which to shoot at him. Depending on the distance to the enemy positions and the availability of cover, the **fire element** and the **maneuver element** switch roles as needed to keep moving. Before the maneuver element moves beyond supporting range of the fire element, it takes a position from which it can shoot at the enemy. The **fire element** becomes the **maneuver element** for the next move.





An element may be a soldier, fire team, squad, or platoon. Regardless of the size of the elements, the action is still **fire and maneuver**.

When contact is made, leaders designate both **fire elements** and **maneuver elements**.

The fire element is best positioned on ground that is high and to the flank of the maneuver element so the fire of the fire element is not masked by the maneuver element until the last moment. When it can, the fire element moves undetected into a firing position. Surprise fire from an unexpected direction is more deadly than fire from a known position.

When the fire element is in position, it fires at the enemy to suppress him. The enemy is suppressed when he is pinned down and cannot return fire. Once he is suppressed, the rate of fire may be reduced, but suppression must be kept up. When the maneuver element nears its objective, the rate of fire is increased. Fire and maneuver is kept up until there is no more enemy resistance.

## FIRE

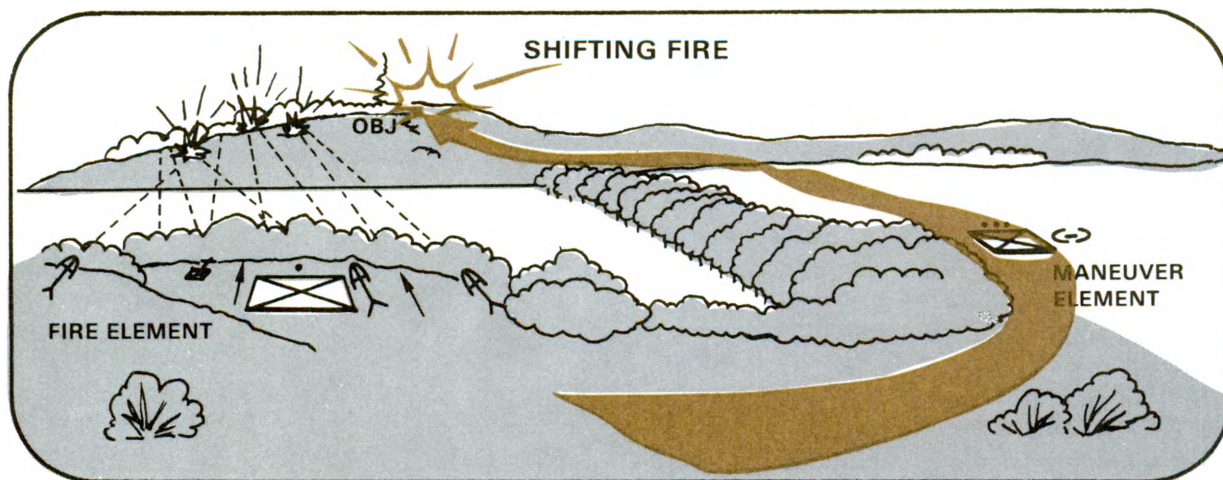
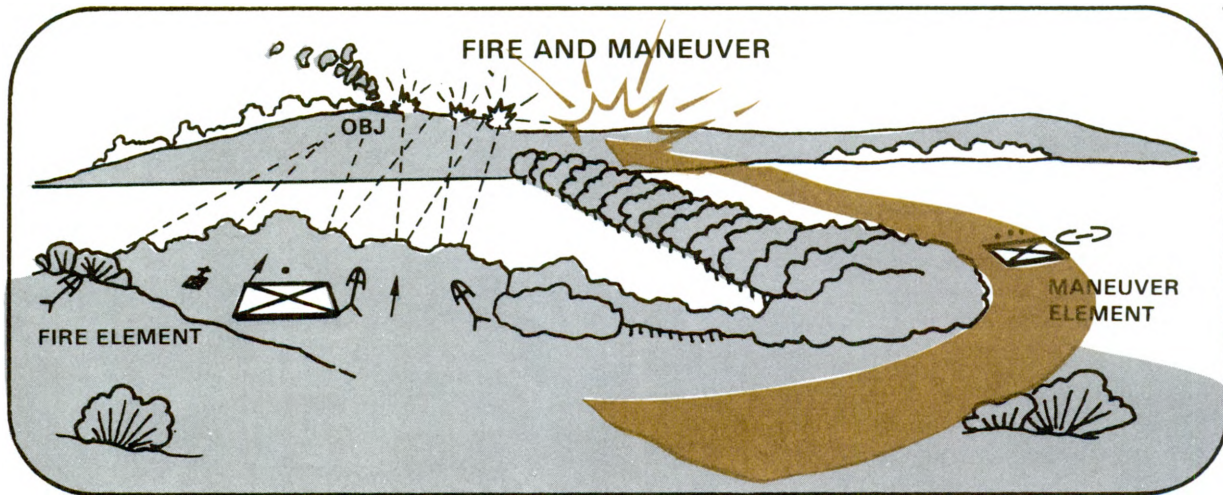
While artillery, TOWs, and mortars may support this action, most of a platoon's fire support is from its rifles, machineguns, grenade launchers, and Dragons. If the platoon moves toward its objective with its rifle squads alternately firing and maneuvering — switching roles as fire element and maneuver element — machineguns and Dragons will be part of the **fire element**. They may move from position to position, joining each element as it becomes the **fire element**.

The platoon may advance by fire and maneuver using the same maneuver element to maneuver all the way to the objective. The fire element may simply be the platoon's

machineguns and Dragons, or it may be one or two squads and these weapons. The fire element may be controlled by either the platoon sergeant or a rifle squad leader in the fire element. The platoon leader goes with the maneuver element.

As the maneuver element gets in and

among enemy positions, it may mask the fire from the fire element. Gunners then slowly “walk” (move) their fire across the objective just in front of the maneuver element, or shift to another target. They may cease fire and move forward to join in the reorganization and consolidation, or in a continuation of the attack.



## MANEUVER

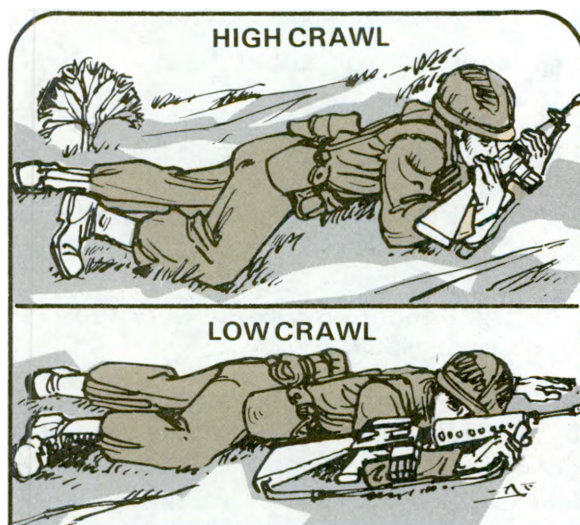
Squad and team leaders control and lead by example, by voice command, by arm-and-hand signals, or by other visual or sound (whistle) signals. They have their men move

by the best method for the situation. This may be by crawling or by short rushes from cover to cover. An assault must be aggressive so the platoon does not slow down as men



close with the enemy. As it fights its way through the objective, the platoon must avoid exposure to fire from enemy behind or to the flanks of the objective.

The crawl is slow but it helps avoid exposure to fire. If necessary, a squad will crawl all the way through its objective.



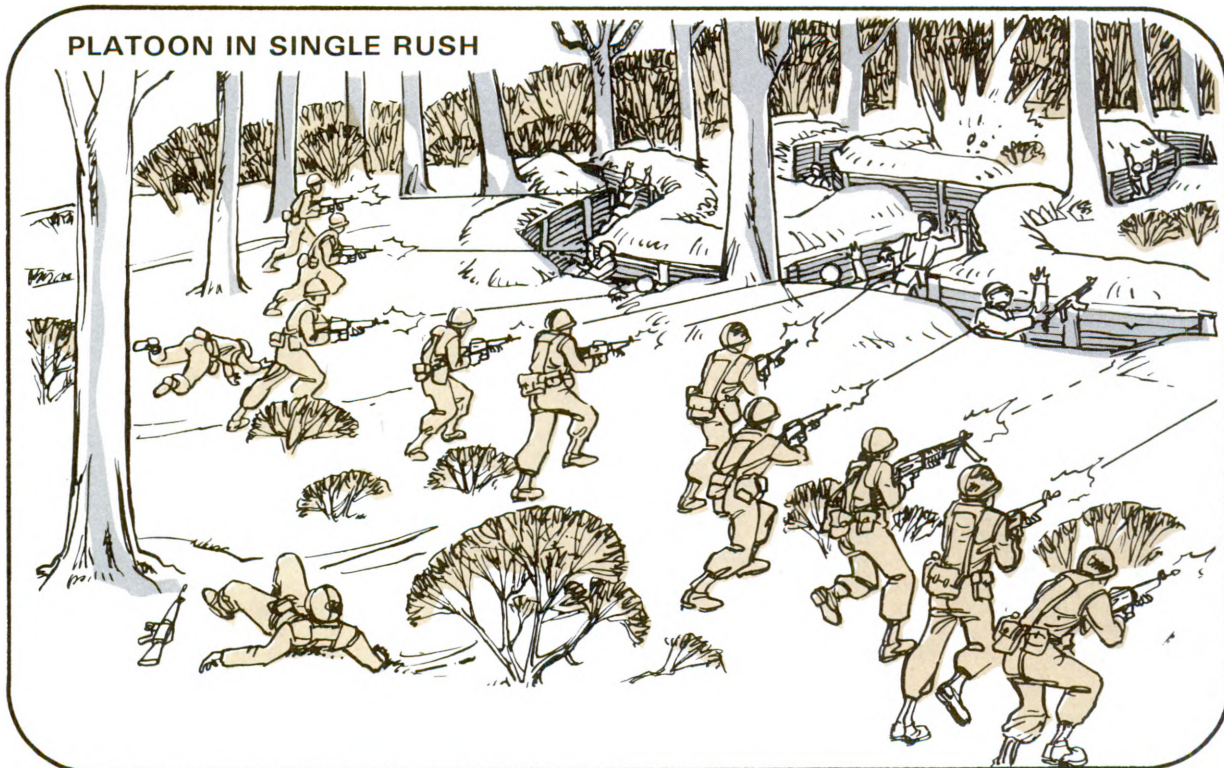
Short rushes from cover to cover may be used when enemy fire allows brief exposure. Men rush singly, in pairs, or by fire teams in 3- to 5-second rushes. A rush is kept short to keep the enemy machinegunners from tracking rushing men. Men should not hit the ground in the open just because they have been up for 5 seconds. They must look for cover before starting the rush and then head straight to it.



**Single rush.** At times, a whole platoon may have to assault an enemy position in a single, quick rush. This is done only when —

- a platoon is under heavy indirect fire,
- there is no cover,
- a platoon is being hit by hand grenades, or
- the enemy who could shoot at it is suppressed.

This type rush must be fast, accompanied by suppressive fire. A rush must be for a distance so short that the enemy can be quickly overrun.



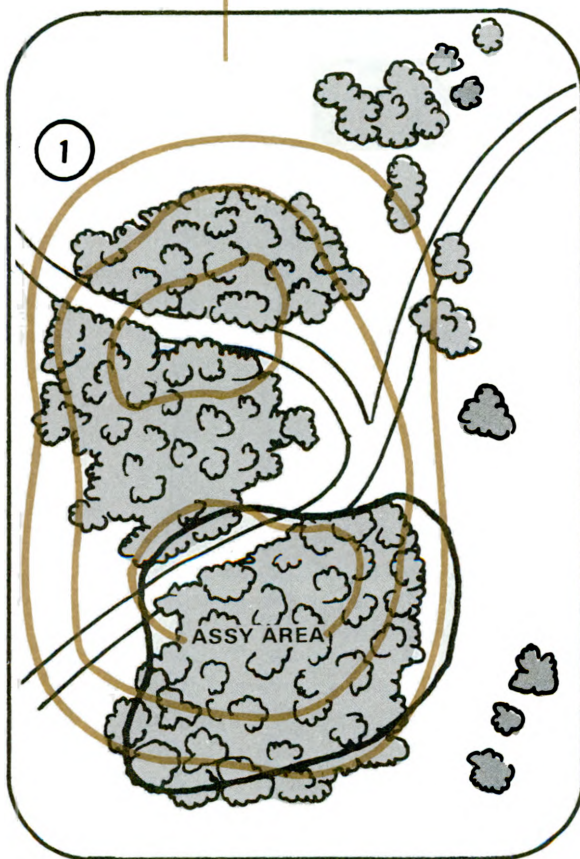


## Section IV

# CONTROL MEASURES

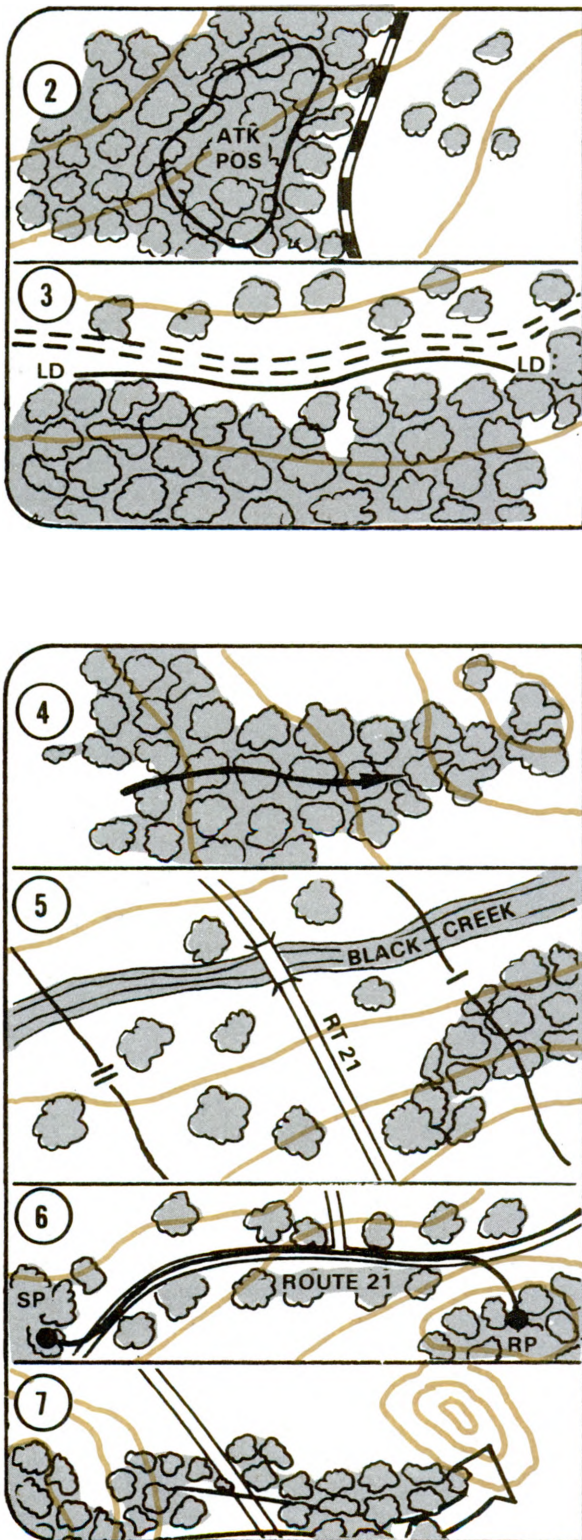
### INTRODUCTION

Control measures are methods or devices that a leader uses to regulate or direct his unit's movement, positions, and fire. Control measures can be drawn on a map, overlay, or sketch, or shown on a terrain model. Control measures are normally related to terrain features which are easy to recognize. A leader should use **only** those control measures needed to control the operation. **Offensive control measures are:**



① **Assembly area.** An area occupied by a unit to prepare for future operations. It should be on easily defensible terrain. An all-round defense is prepared within the time available. Desirable characteristics are concealment, room for dispersion, good routes forward, and security from ground or air attack. **In this area, these activities may take place:**

- Orders are issued.
- The unit is organized for its mission.
- Maintenance is done.
- Inspections are done.
- The unit is resupplied.
- The unit rehearses.
- The unit rests.



② **Attack position.** A covered and concealed place just behind the line of departure. The unit makes final coordination and deploys into the initial attack formation. The platoon stops in the **attack position ONLY** when final preparations cannot be completed before reaching it or if the platoon is ahead of schedule for the attack.

③ **Line of departure (LD).** A linear feature usually perpendicular to the direction of attack. It is used to coordinate the advance of attacking units. It is usually picked by the company commander. Ideally, it is held by friendly troops. The **time of attack** is the time for the unit to start crossing the LD. The LD may be the line of contact with the enemy.

The line of contact (LC) is the trace of friendly units in contact with the enemy.

④ **Direction of attack.** A specific route along which the center of mass of a unit is to advance. It is used when a commander needs to closely maintain control over the movement of his attacking units. The unit attacking along a direction of attack must clear the route of all enemy resistance.

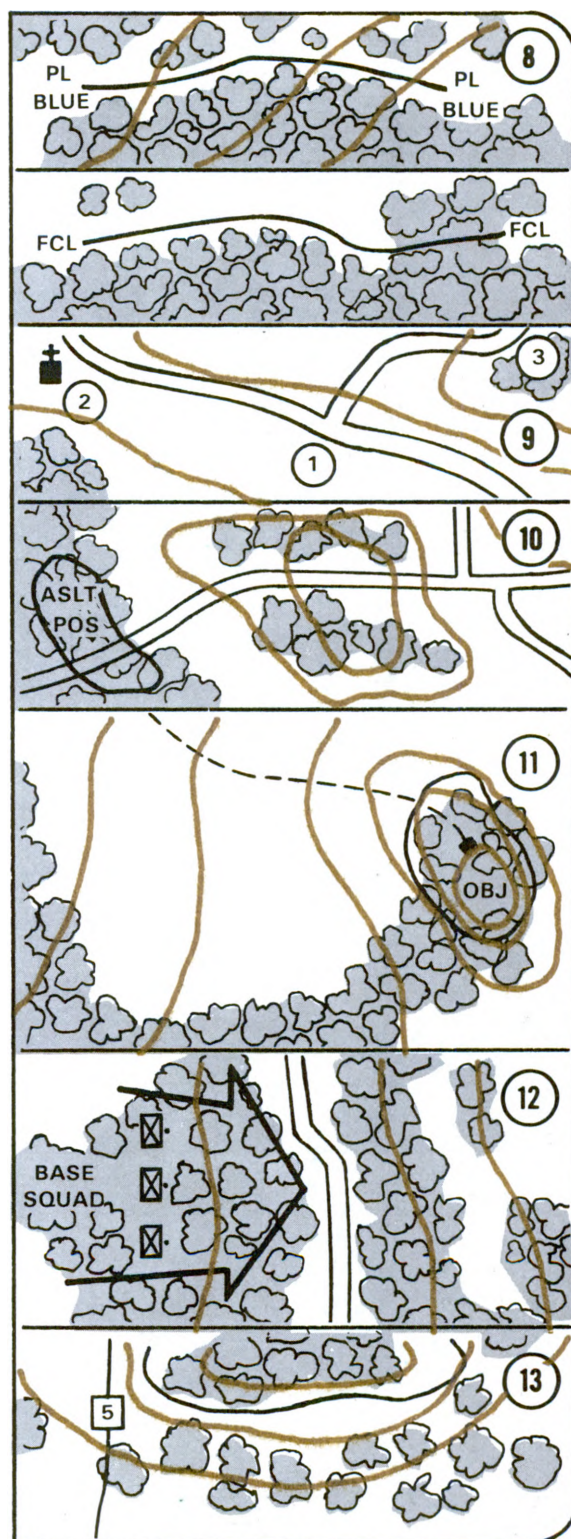
⑤ **Boundaries.** Lateral limits used to control the lateral movement and fire of units. A unit may shoot direct fire weapons across its boundary at a clearly identified target. Indirect fire may be fired across a boundary after coordination with adjacent units. Boundaries are rarely established lower than company level. In highly compartmented areas, such as towns, platoon boundaries may be used.

⑥ **Route.** A course a unit must follow to get from one location to another. The beginning of the route is designated as the **start point (SP)** and the end of the route is designated as the **release point (RP)**.

⑦ **Axis of advance.** A broadly defined route that indicates the general direction of attack for a unit. A unit may fire and maneuver to either side of an axis of advance, as long as it does not interfere with adjacent units. Squads are rarely given an axis of advance.



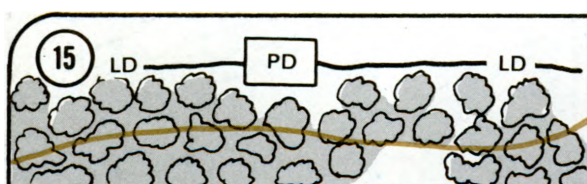
- ⑧ **Phaseline (PL).** A linear feature perpendicular to the direction of attack that is used to control the movement of units. Normally, units do not stop at phaselines but must report their arrival at them. **Final coordination line (FCL).** A phaseline often used by company and higher to coordinate lifting or shifting of supporting fire or to coordinate the deployment of attacking units before an assault.
- ⑨ **Checkpoint.** A place on the ground designated to provide a reference for quickly reporting locations and for controlling the movements of units. Checkpoints should not be used to report enemy locations.
- ⑩ **Assault position.** A position designated between the LD and the objective where units complete the final deployment into their assault formation. It should be the last covered and concealed position short of the objective.
- ⑪ **Objective.** The area or enemy force to be attacked. A unit assigned an objective must secure it or destroy the enemy force. The size of an objective must be within the capabilities of the unit to which it is assigned. A platoon objective may be a separate terrain feature, or a part of the company's objective. Squads are not normally assigned separate objectives. Squads attack to seize portions of the platoon's objective.
- ⑫ **Base squad.** A designated squad on which the remaining squads guide their movement. It enables the platoon leader to control the speed and direction of movement of his entire platoon by issuing instructions to only one squad leader. A squad leader normally designates one fire team as the base fire team. The other fire team guides on it.
- ⑬ **Contact point.** A place where two or more friendly units are required to make physical contact.





- 14 Rally point.** A place where members of a unit can reassemble and reorganize if dispersed during movement.

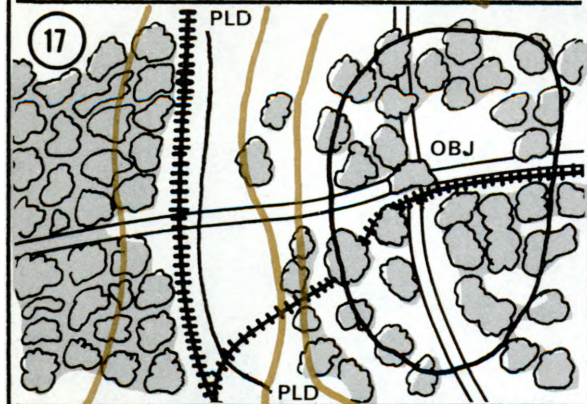
When visibility is poor, the following control measures may be used in addition to, or instead of, some of those above. The degree of visibility will determine which of these measures are necessary.



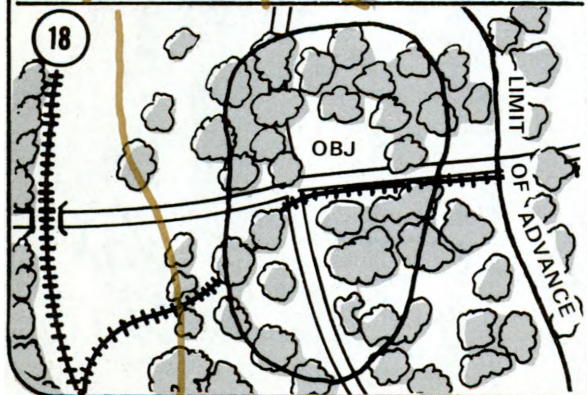
- 15 Point of departure (PD).** The exact place where a unit must cross the LD. The PD is often used when passing through friendly positions. Guides may be posted there to help control movement.



- 16 Release point (RP).** A point where a leader releases control of his subunits to their respective leaders. At a platoon RP, a company commander releases control of his platoons to the platoon leaders.



- 17 Probable line of deployment (PLD).** A location on the ground, short of the objective, where units in a night attack complete final deployment into their assault formation. The PLD should be on a terrain feature that is easy to find at night. It should be perpendicular to the direction of attack. It is generally as close to known enemy positions on the objective as the attacking commander thinks his troops can get without being detected. If practical, it should be on the enemy side of any obstacles.



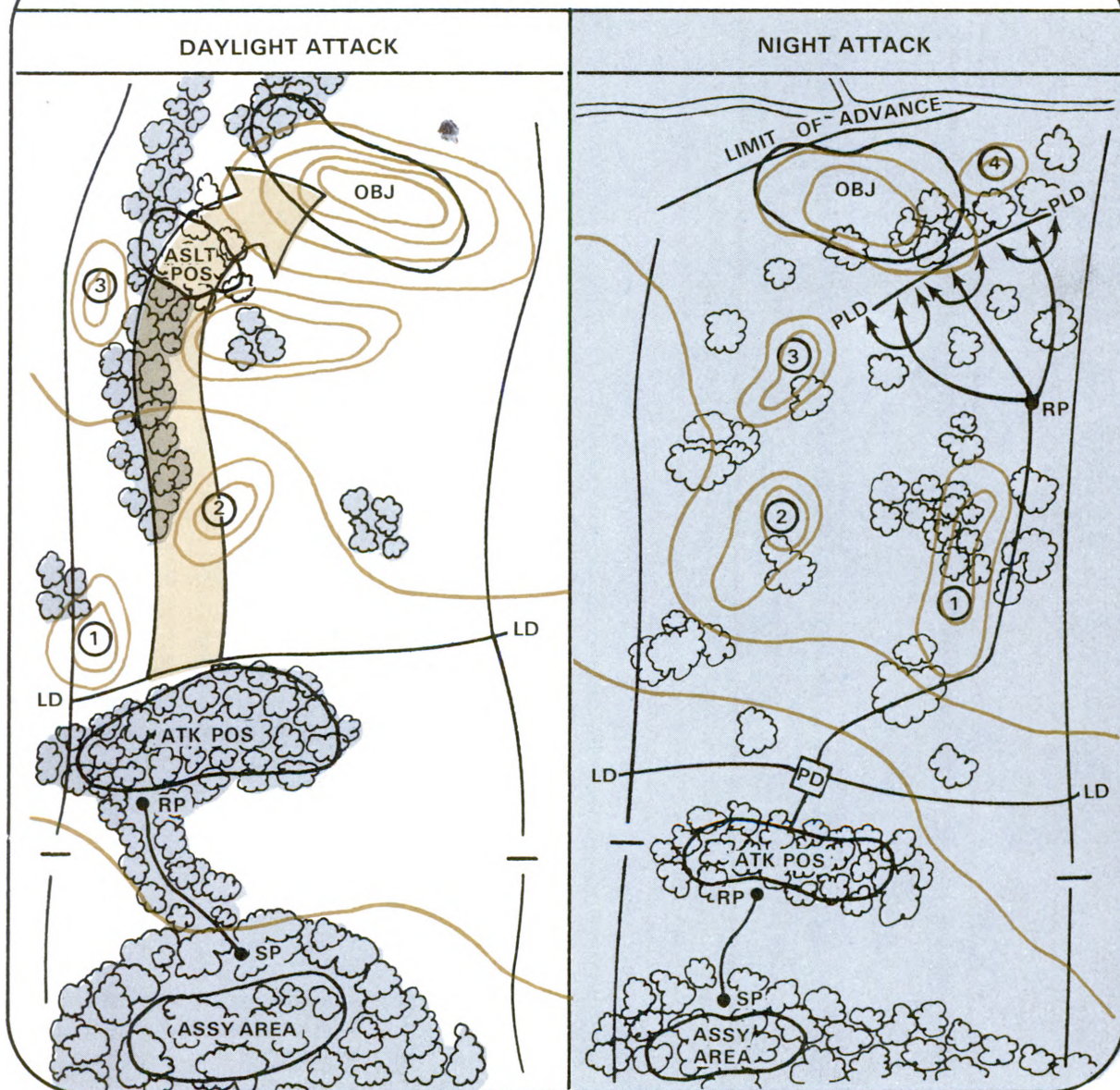
- 18 Limit of advance.** A restriction which specifies the farthest distance a unit may move across its objective in an attack. It should be on an easily recognizable terrain feature far enough beyond and to the flanks of the objective to give security elements space in which to do their job.





- 19 Infiltration lane.** A lane through which a unit moves by stealth, in order to pass through lines without being detected. An infiltrating unit must stay within the limits of the lane.

## EXAMPLES OF A DAYLIGHT ATTACK AND NIGHT ATTACK

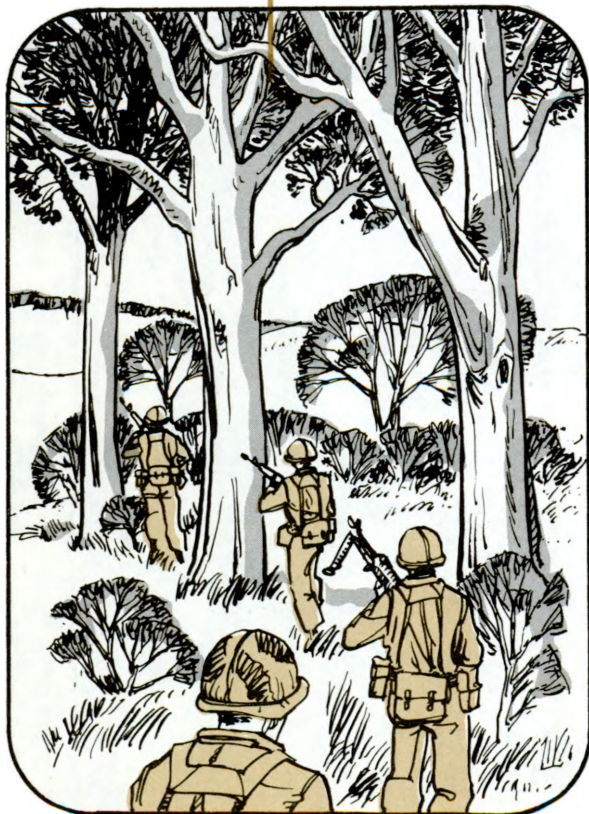


## Section V

## MOVEMENT TO CONTACT

## INTRODUCTION

Whenever a platoon is moving toward the enemy but is not in contact, it is conducting a movement to contact. Most offensive operations begin with a movement to contact. Its purpose is to gain or regain contact with the enemy and to develop the situation in order to conduct either a hasty or deliberate attack. Movement to contact is usually characterized by a lack of information about the enemy.



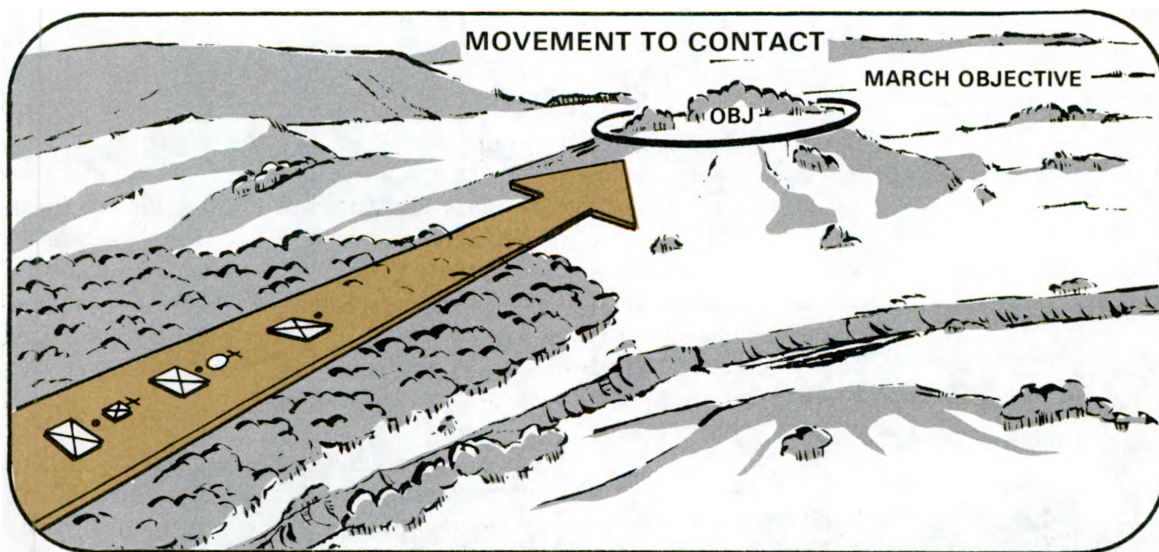
A platoon normally conducts a movement to contact as part of its company. Seldom will a platoon conduct a movement to contact by itself. This section covers a platoon when operating as the lead element of its company. The platoon's missions are to —

- protect its company from a surprise attack by providing early warning of enemy positions and obstacles,
- assist the forward movement of its company by removing obstacles or finding routes around them,
- defeat enemy forces within the platoon's capability, and
- rapidly develop the situation once contact is made.

The platoon leader must be continually planning and visualizing how he will deploy his squads and weapons to react to enemy contact.



The platoon moves using **traveling overwatch** or **bounding overwatch**. It is normally assigned an **axis of advance** and a **march objective** to orient its movement on. A march objective may be an identifiable terrain feature at a depth which is expected to insure contact with the enemy.



## FUNDAMENTALS

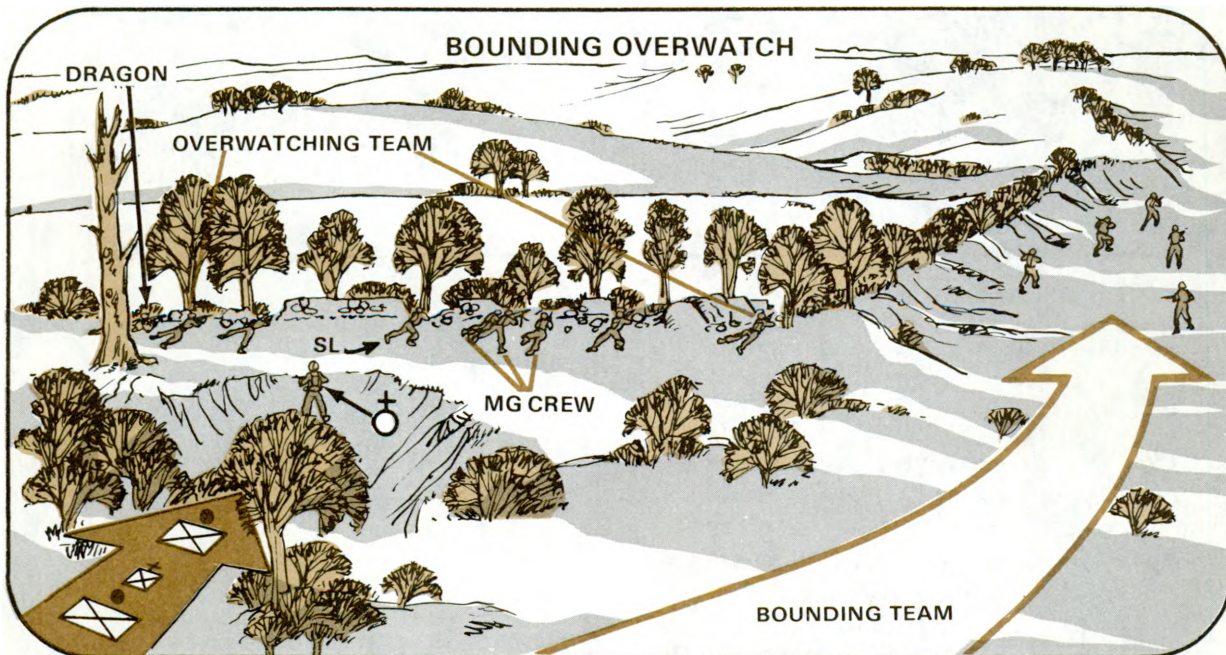
The platoon conducting a movement to contact should follow these fundamentals:

- Orient movement on the march objective.
- Plan to make contact with the smallest element possible.
- Report all information rapidly and accurately.
- Retain freedom of maneuver.
- Gain and maintain contact.

**Orient Movement on the March Objective.** The company commander normally assigns his lead platoon an axis of advance which will best enable it to reach the march objective.

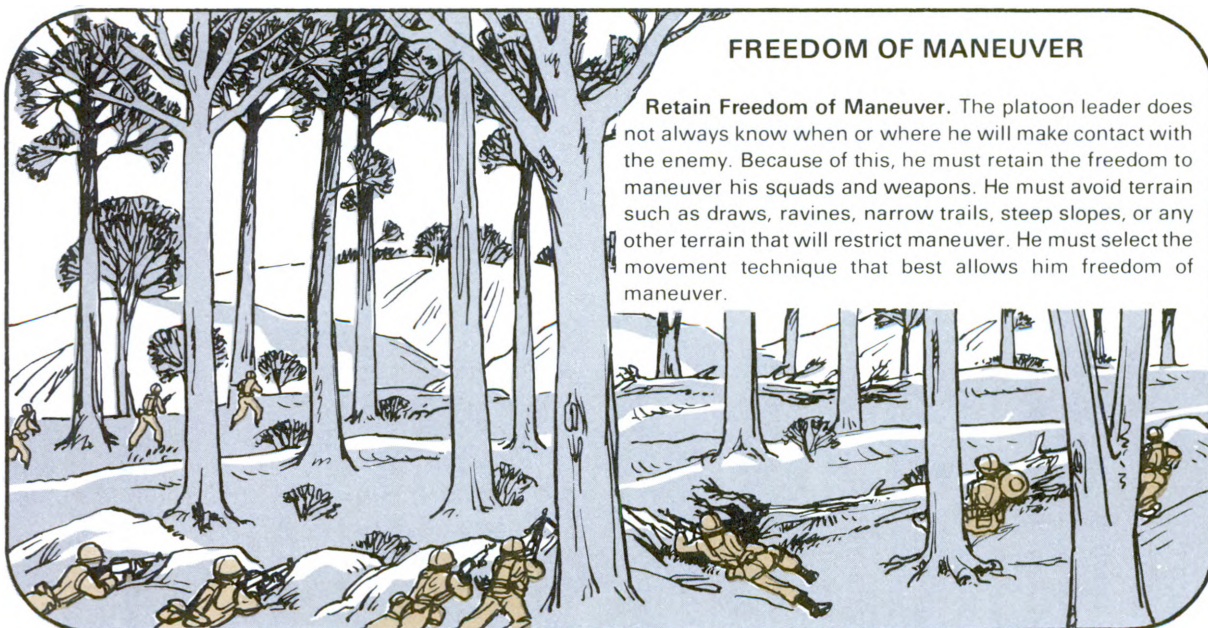
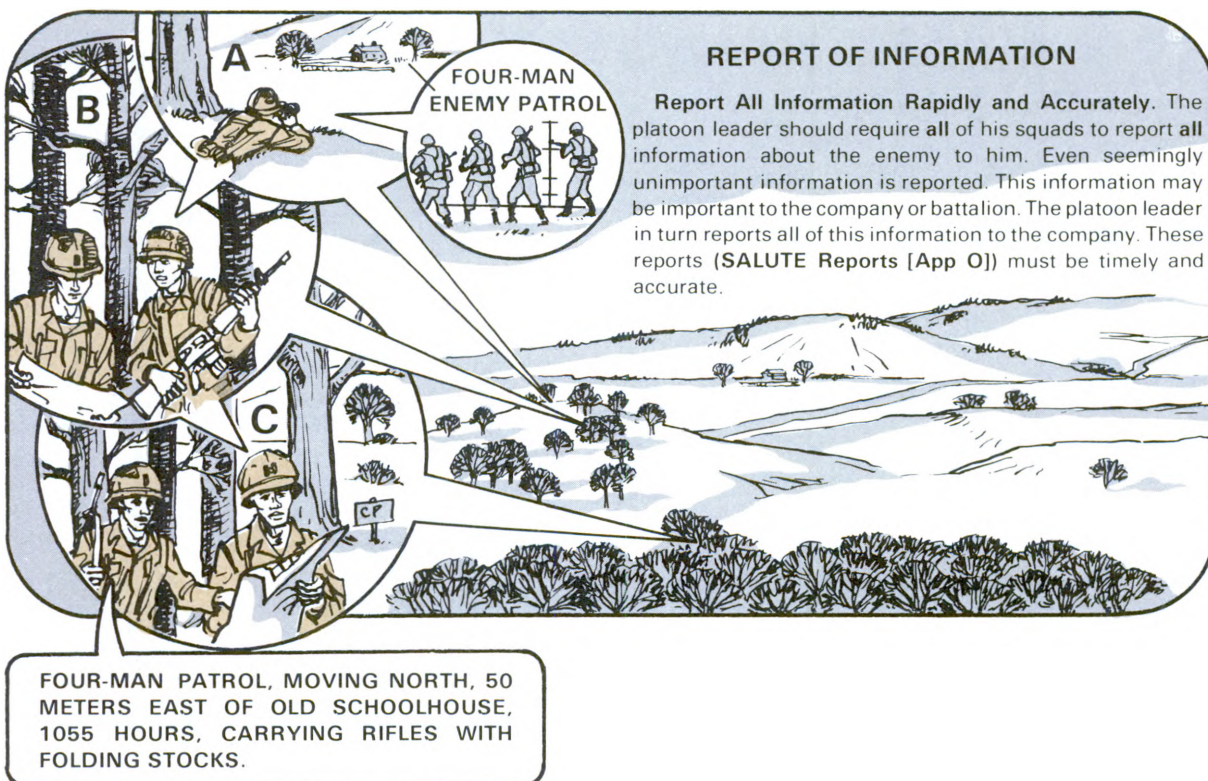
An axis of advance indicates the general direction of movement the platoon must take. The platoon leader can maneuver his squads and weapons to either side of the axis, as necessary. This allows him to avoid or to engage the enemy.

**Plan to Make Contact with the Smallest Element Possible.** The platoon leader attempts to avoid having more than one squad pinned down by enemy fire at any one time. This lets the platoon conduct fire and maneuver with the other two squads to overcome the enemy or develop the situation.



The platoon leader selects the movement technique and formation best suited to the likelihood of enemy contact and the speed of movement desired by the company commander. **Bounding overwatch** puts the platoon in the best configuration for contact, but it may have to use **traveling overwatch** if more speed is desired. If traveling overwatch is used by the platoon, the lead squad should use bounding overwatch for added security.





**Gain and Maintain Contact.** Once contact is made with the enemy, the platoon does not break contact unless ordered to do so by the company commander.

## PLANNING

When planning for a movement to contact, the platoon leader requires certain information from the company commander. He needs to know —

- the friendly and enemy situation,
- the route (axis of advance) and desired rate of movement,
- the width of the area to be cleared,
- if there will be any attachments (TOWs, engineers, air defense weapons),
- the fire support available, and
- the platoon's mission upon reaching the march objective.

With this information, the platoon leader develops his scheme of maneuver and fire support plan.

## ACTIONS ON CONTACT

A movement may result in contact between the moving unit and the enemy. How well a unit reacts in the first few seconds after making contact may determine if it wins or loses. A number of acts must take place at once.

**Return Fire, Deploy, Report.** When contact is made, the lead squad returns fire at once — not necessarily well-aimed fire — and takes cover. It deploys to better positions from which it can shoot well-aimed fire. It develops the situation, and reports to the platoon leader. The overwatching squad immediately fires at the enemy position. Squads not able to fire take cover and wait for orders.

**Develop the Situation.** The platoon leader deploys the rest of his troops and weapons, calls for indirect fire or other support, and reports to his company commander. He may recommend a course of action to the commander with his initial report, or he may first conduct fire and maneuver to gain more information about the enemy.

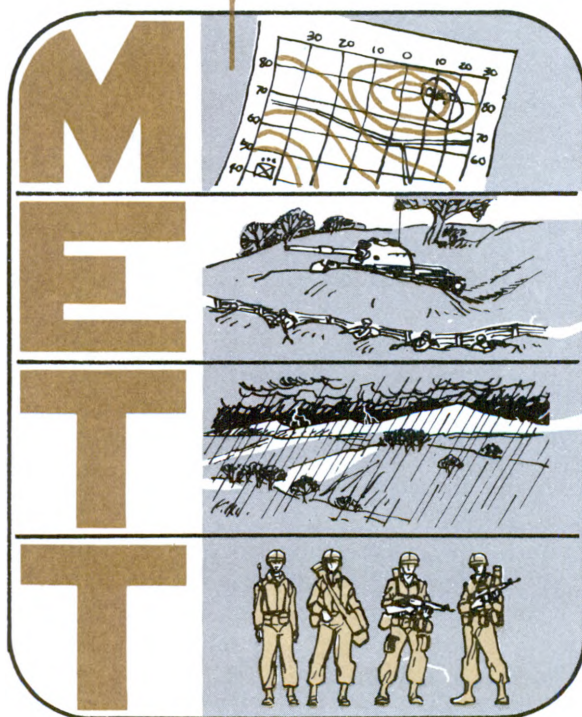


## Section VI

# DAYLIGHT ATTACK

### INTRODUCTION

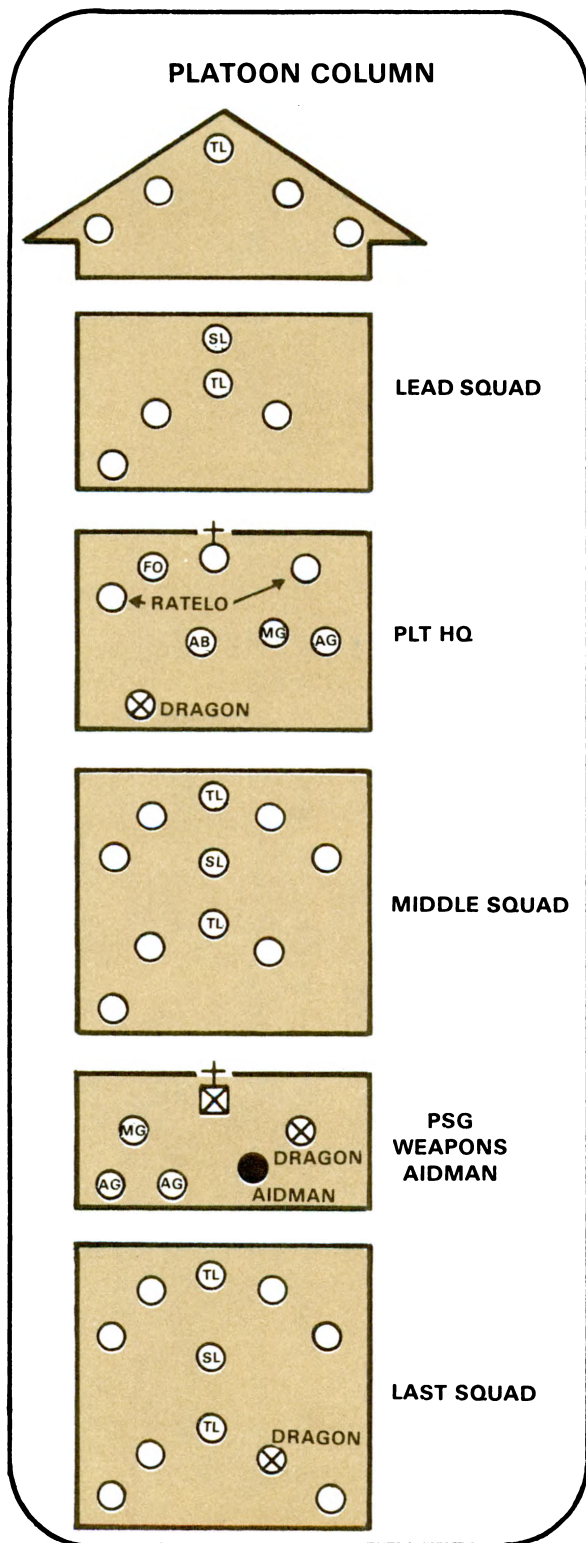
An attack is used to destroy or capture an enemy force or to secure key terrain. An attack is conducted in a bold and aggressive manner, usually ending in close combat. Attacks are either **hasty** or **deliberate**. The basic difference between a hasty attack and a deliberate attack is the time available for planning and preparation.



### PLATOON ATTACK PLAN

On receipt of a company attack order, the platoon leader starts his troop leading procedure as described in chapter 2, and makes an estimate of the situation. His estimate is a consideration of the **mission, enemy, terrain and weather, and troops available (METT)**. Based on this, he makes his attack plan. The attack plan includes—

- a scheme of maneuver, and
- a fire support plan.



**Scheme of Maneuver.** This is the positioning and movement of the maneuver element (squad or squads) from the time the platoon crosses the LD through the consolidation on the objective. It includes:

- **Maneuver element.** The platoon leader decides how many squads are needed in the maneuver element and what each one's mission will be. He also decides how he wants each squad to accomplish its mission. Depending on the situation and the support provided by the rest of the company, the platoon's maneuver element may be one, two, or three squads.

- **Route.** The platoon leader selects a route that takes advantage of cover, concealment, and supporting fire. It should direct the attack at the enemy's flank or rear. However, the company commander normally restricts the choice of routes to coincide with his plan for the company.

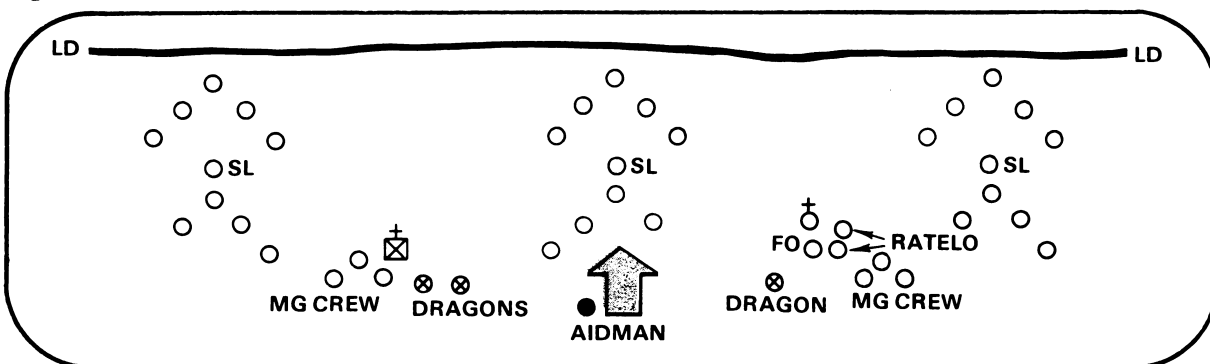
- **Formation.** The platoon leader may not be able to select his formation because the platoon may move as part of the company formation. If it is part of the company formation, the company commander decides on the platoon's formation. He may also decide on its movement technique. If the commander does not tell the platoon leader what formation and technique to use, the platoon leader decides — based on the platoon's position in the company formation and the likelihood of enemy contact.

If the platoon moves independently, its leader chooses an initial platoon formation and movement technique. He may change these en route. His choice depends on the likelihood of enemy contact, the terrain, visibility, and the speed he wants.

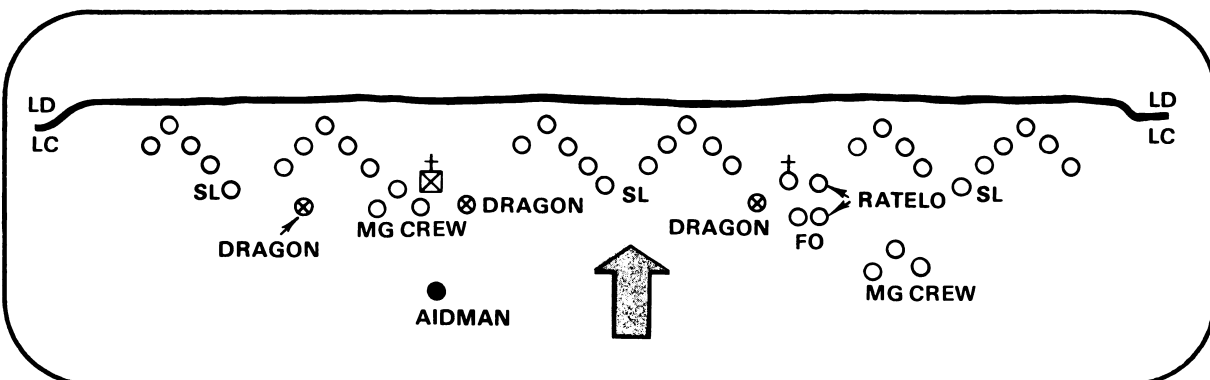
If the distance to the objective is great, or if early enemy contact is not expected, the platoon may move in **column**. Unless enemy action forces it to deploy sooner, the platoon stays in column until it approaches the assault position.



If the distance to the objective is short, or if early enemy contact is expected, the platoon may move in a **platoon line, squads in column**.



If the platoon is in contact with the enemy and the distance to the objective is short, the platoon may move in a **platoon line, squads on line**.



● **Control.** Based on the scheme of maneuver, the platoon leader selects —

- his position within the formation from which he can control the entire platoon,
- the control measures needed to control the operation, and
- the best means to communicate with the squad leaders (voice commands, arm-and-hand signals, whistles, radios, flares, or smoke grenades).

● **Consolidation and Reorganization.** This covers the actions of the platoon once the objective is seized.

**Consolidation.** This is the organizing and positioning of men, squads, and weapons on a newly seized objective, so that it can be defended against a counterattack. The company commander assigns a part of the company's objective to each platoon to consolidate. He may use coordinating points to help the platoons tie in with each other. Platoons consolidate objectives by either the **clock method** or the **terrain feature method**.

In the clock method, 12 o'clock is either a compass direction or the direction of attack. **Example:**

#### CLOCK METHOD

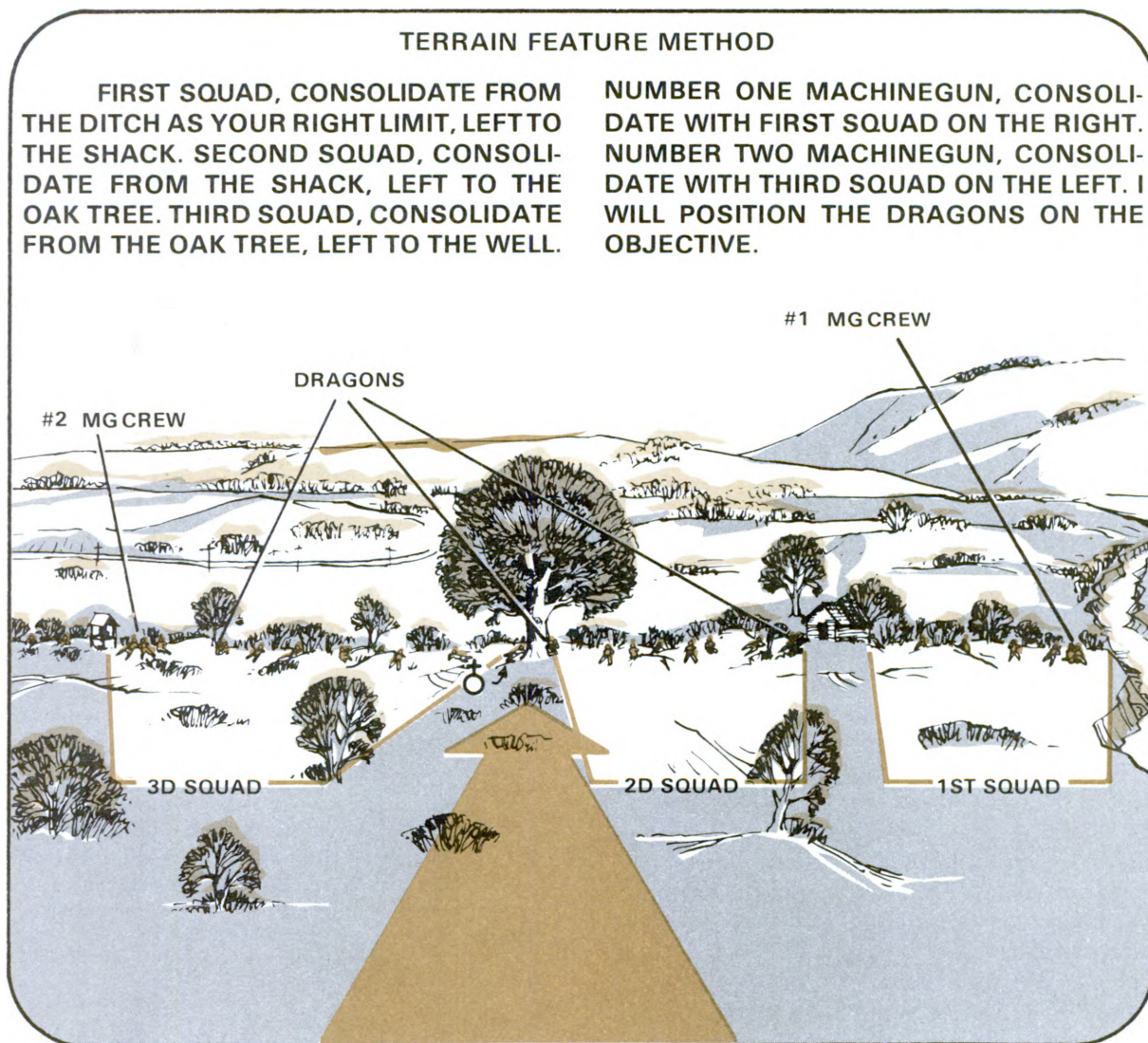
TWELVE O'CLOCK IS THE DIRECTION OF ATTACK. FIRST SQUAD, CONSOLIDATE FROM NINE TO ELEVEN, AND PLACE YOUR MACHINEGUN TO SHOOT ACROSS THE PLATOON'S FRONT. SECOND SQUAD, CONSOLIDATE FROM ELEVEN TO

ONE. THIRD SQUAD CONSOLIDATE FROM ONE TO THREE, AND PLACE YOUR MACHINEGUN TO SHOOT ACROSS THE PLATOON'S FRONT. I WILL CONTROL THE DRAGONS AND POSITION THEM ON THE OBJECTIVE.





In the terrain feature method, each squad is given two easily identifiable terrain features as the right and left limits of its sector. **Example:**



**During consolidation —**

- platoon leaders send out OPs and security patrols as directed by the company commander;
- gunners quickly move machineguns and Dragons forward and position them to cover likely routes of enemy counterattack;
- squad and fire team leaders position their men and assign sectors of fire; and
- troops start to prepare fighting positions.

**Reorganization.** This is the reorganizing of squads and platoons in order to continue the attack. Reorganization of the platoon should be done in accordance with SOP. During reorganization —

each squad leader checks his men and reports his squad's situation, position, casualties, and ammunition status to the platoon leader;

each platoon leader reports his platoon's situation, strength, and ammunition status to the company commander;

ammunition is redistributed and resupplied;

casualties are treated, and those that need to be are evacuated;

vacancies in key positions (due to casualties) are refilled;

prisoners are searched, silenced, segregated, and safely sent to collecting points; and

enemy information and material are collected and reported.

**Fire Support Plan.** This supports and complements the scheme of maneuver and is developed concurrently. It includes the use of all available direct and indirect fire. The purpose of this fire is to kill as many enemy as possible and to suppress the rest to keep them from seeing or shooting while the maneuver element closes on the objective.

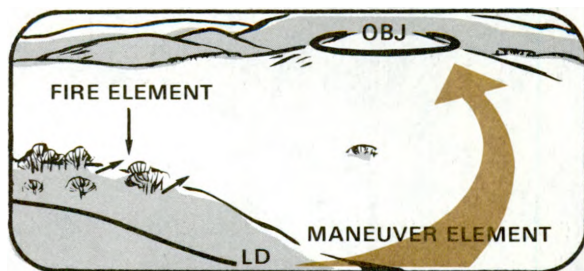
Indirect fire is mainly planned by the company commander and fire support team (FIST) chief. However, the platoon leader and his FO may plan for and request additional targets if needed.

The platoon leader is primarily concerned with planning the direct fire of his fire element. The fire element may consist of the

machineguns and Dragons, or it may consist of one or two squads and these weapons. The fire element's composition depends on support provided by other platoons and how much direct fire support the platoon leader feels is necessary for his mission.

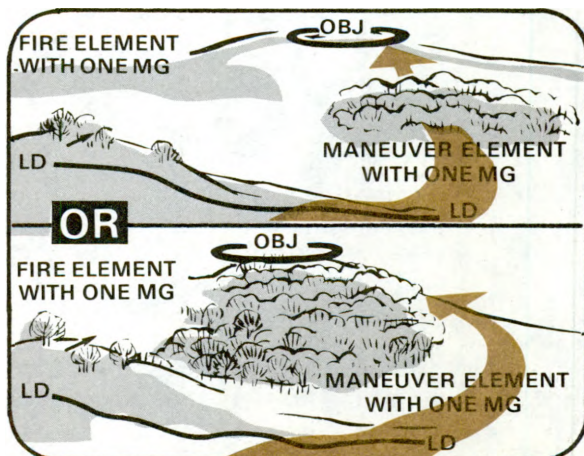
**Machineguns.** The platoon leader initially employs his machineguns in one of three ways:

**1. Position both guns on or near the LD.** This is done when the objective and route to it can be seen and covered by fire from a position on or near the LD.



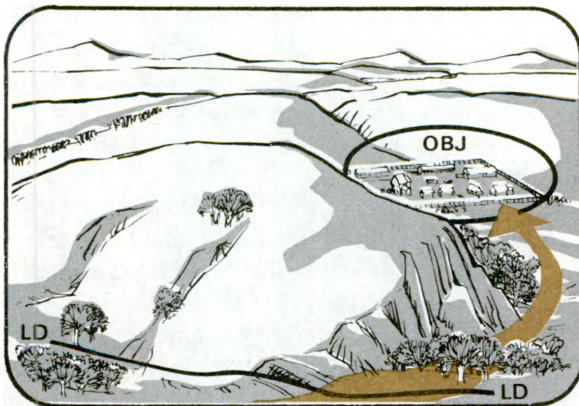
**2. Position one machinegun on or near the LD and have one go with the maneuver element.** This is done when —

- the objective can be seen and covered by fire from the LD but only part of the route can be seen; or
- all of the route can be seen from the LD but the objective cannot be seen or is out of range.





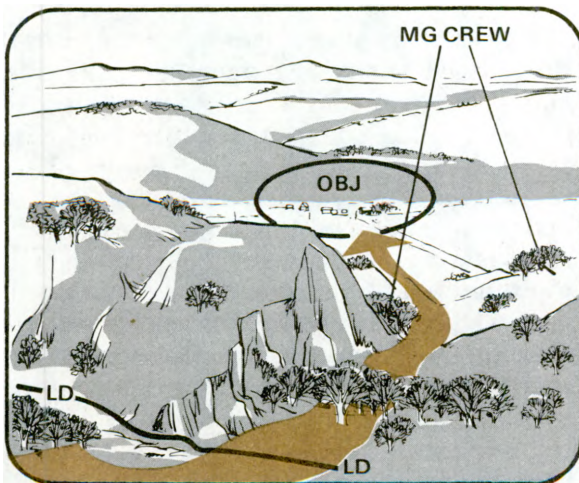
**3. Have both machineguns go with the maneuver element. This is done when neither the objective nor the route can be covered from the LD.**



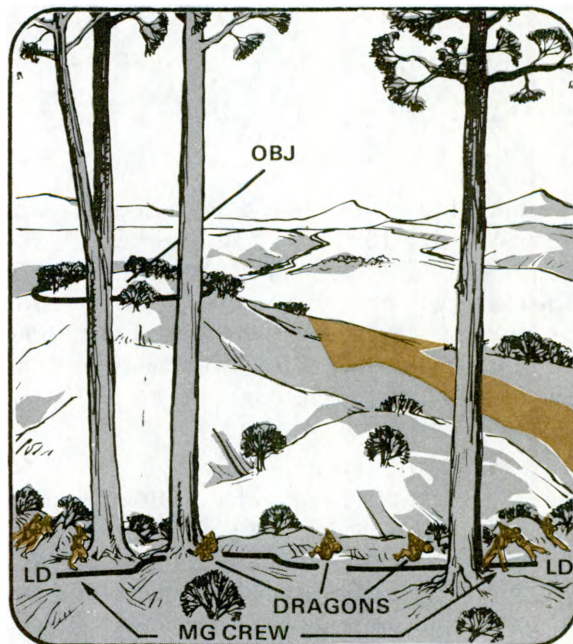
If the platoon leader selects the first or second method, he must decide how, where, and when the machinegun(s) will displace. He should have one machinegun in position to fire while the other is displacing.

If the machineguns are with the fire element during the maneuver element's assault on the objective, they must displace forward as soon as their fire is masked by the maneuver element.

When machineguns go with the maneuver element, the platoon leader looks for places to position them along the route where they can cover the movement to, and the assault on, the objective.



**Dragons.** The platoon leader has basically the same three options in employing his Dragons as he has in employing his machineguns. However, when possible, he should position them with the fire element. Dragons should not go with the maneuver element in the assault because of the weapon's size and weight, and because of the need for the gunner to be still while tracking.



**Squads.** The platoon leader may put one or more rifle squads in the fire element to provide more direct fire support and security for the machineguns and Dragons.

**Indirect fire.** After receiving the company fire plan, the platoon leader checks it to insure that targets are planned on all known or suspected enemy positions in front of, on, behind, and to the flanks of the objective. If additional targets are required, the FO coordinates them with FIST chief.

**Other fire support.** Other fire may come from Air Force aircraft and air defense weapons. This support is planned and controlled by the company or battalion commander. A platoon leader may request it if he needs it.

**NOTE:**

When planning for a **hasty attack**, the plan still includes a scheme of maneuver and fire support plan. The shortage of time, however, will cause the attack plan to be in less detail. The less squads or weapons have to be maneuvered, the easier the coordination and control.

## CONDUCT OF THE ATTACK

The platoon leader moves where he can best influence the fight. This may be with one of the assault squads or at the center rear of the platoon. To communicate, he may use one or more of these means: voice commands, arm-and-hand signals, whistles, radios, flares, or smoke grenades.

**Movement from Assembly Area to Line of Departure.** The platoon moves forward from the assembly area under company control. When the platoon leader is already forward with the company commander, the platoon sergeant moves the platoon forward. Machineguns and Dragons may precede the rest of the platoon by moving to overwatch positions on or near the LD. The move from the assembly area is timed beforehand so the lead squad crosses the LD at the time of attack without halting in the attack position. If the platoon must halt in the attack position, it deploys into the initial attack formation, posts security, and takes care of last-minute coordination. Whether or not the platoon halts in the attack position, it must deploy into the attack formation and fix bayonets before crossing the LD.

**Movement from Line of Departure to the Assault Position.** The platoon's maneuver element moves from the LD to the assault position, making the best use of cover, concealment, smoke, and supporting fire.

The fire element overwatches from positions that best support the advance of the maneuver element. The fire element leader (**platoon sergeant or squad leader of a squad with the fire element**) controls the method and rate of fire. He gives the command to open fire. This leader and the gunners watch the progress of the maneuver element and shoot targets which threaten it. When machineguns are close together, the leader must anticipate the masking of their fire and displace the guns one at a time. When the guns are separated, each crew may displace under control of its gunner when its fire is masked, or when it can no longer support. The displacement of all weapons in the fire element must be timed so that the platoon has continuous fire support.

If the platoon is hit by indirect fire en route, it moves quickly out of or around the impact area.

If enemy resistance is met short of the objective, fire is returned at once by those squads in position to fire. The platoon leader has his FO call for and adjust indirect fire on the enemy. Depending on the place and type of the resistance, and the company plan, the platoon may be ordered to bypass enemy troops who cannot affect the accomplishment of the mission. The locations of all bypassed enemy are reported to the company commander.

If enemy resistance cannot be bypassed, the platoon should use aggressive fire and maneuver against it. When resistance is first met, the lead squad returns fire at once. The leader must take prompt action. Because he is well forward, the platoon leader can see the action of his lead squad(s). He quickly considers the mission, enemy, terrain and weather, and troops available (**METT**), and makes a plan. He gives commands or signals to carry out his plan. He should not commit squads piecemeal. He coordinates actions so the platoon will hit the enemy with its full combat power. The platoon leader tries to maneuver a squad to strike the flank or rear



of the enemy position. When the resistance is destroyed, the platoon continues quickly toward its objective.

Obstacles encountered along the route are breached if possible. If not, they are bypassed. The platoon leader must decide how best to overcome the obstacle without losing the momentum of the attack. The commander is told of obstacles that may affect units following the platoon.

**Movement from the Assault Position to the Objective.** The assault position is as close to the objective as possible without risking needless exposure to enemy fire.

As the platoon nears the assault position, the FO increases the volume of indirect fire on the objective. Fire from the fire element also increases. The platoon is deployed on line just prior to reaching the assault position. It should then pass through the assault position and assault the objective. Sometimes, a platoon may halt so that deployment can be completed and all its squads assault at once. The platoon should avoid halting in the assault position, if possible. Halting is dangerous and may cause loss of momentum.

Supporting fire continues to hit the enemy. The assaulting troops and the fire element keep up a high rate of fire to keep the enemy suppressed. Indirect fire is normally shifted by the company commander when it endangers the advancing troops. The commander coordinates this with the assault of his platoons. He is helped in this control by reports or signals from his platoon leaders and by his own observation of the attack. As the fire of the platoon's fire element is masked, the platoon leader will shift it or displace the weapons.

In closing with the enemy, the men move by fire and maneuver. They move singly, by pairs, by fire team, by squad, or by a combination of these methods. They use all the cover they can. As they close, men must

fire aimed or well-directed shots to suppress the enemy. This is continued until they can close with and kill or capture him. Automatic rifles are fired in short bursts, across the squad front. Rifles, grenade launchers, hand grenades, bayonets, and machineguns are used to overcome pockets of resistance.

All leaders strive to get a heavy volume of accurate fire on the objective. They must make their men move forward aggressively. As the noise and confusion of battle make control by voice difficult, leaders may move to critical points of action to make sure their commands are understood and carried out. They see that men do not waste ammunition in the assault by indiscriminate firing.

Assaulting troops, having closed with the enemy, clear the enemy positions and move over the objective far enough to shoot at any withdrawing troops. They are then moved quickly to their positions for consolidation so as to be ready if a counterattack comes.

Platoons must be prepared to repel a counterattack or to resume the attack after the objective is seized.

To help coordinate and control the assault of two or more platoons, the company commander may designate a **base platoon**. The platoon in turn designates a **base squad**. Platoons guide on the company's **base platoon**. Squads guide on the platoon's **base squad**. The base squad leader designates a **base fire team** in his squad.

#### EXAMPLE OF AN ATTACK SITUATION AND PLATOON AND SQUAD ORDERS

Company B, 1-66th Infantry, has been attacking since 0600 and is now halted east of Cedar Road. Company B is organized with three rifle platoons, a weapons platoon, an attached TOW Section from the battalion,

and a company headquarters. The attached TOW Section is further attached to 3d Platoon. The company is preparing to attack at 1300 to seize OBJ BLUE as part of the battalion's attack. OBJ BLUE has been occupied by an enemy platoon-size force for about 4 hours. Company B will attack with 1st Platoon on the north to seize OBJ No. 1, 2d Platoon on the south to seize OBJ 2, and 3d Platoon supporting by fire from Hill 500. Company B's TOW Section will support from the LD. The Mortar Section will support from its position behind the LD. Priority of fire is to 1st Platoon. There will be a 15-minute artillery preparation of OBJ BLUE on order of the battalion commander. Company B must prepare to continue the attack to the west on order.

The 1st Platoon leader has already received the company attack order. He has decided to maintain control of the Dragons and machineguns until the objective is seized. All leaders have been getting their men ready for the attack. Due to the enemy situation and the lack of a good OP position from which to see the objective, the platoon leader uses a terrain model to explain his order. He begins:

OK, MEN. BEFORE I START WITH THE ORDER, LET ME EXPLAIN THIS TERRAIN MODEL. (The platoon leader points to the terrain model to identify each feature.) THIS ROCK REPRESENTS WHERE WE ARE NOW. THIS IS THE ATTACK POSITION. THIS NORTH-SOUTH ROAD IS CEDAR ROAD. IT IS THE LD. OUR DIRECTION OF ATTACK WILL BE GENERALLY ALONG THIS CREEKBED. THIS IS THE PLATOON RELEASE POINT. THIS IS THE ASSAULT POSITION. THIS IS THE COMPANY'S OBJECTIVE, HILL 522. THIS IS RED ARROW ROAD, RUNNING NORTH TO SOUTH THROUGH THE COMPANY'S OBJECTIVE. THIS IS HILL 500, 3D PLATOON'S POSITION. FIND THESE FEATURES ON YOUR MAPS. IS EVERYBODY READY? OK.

WE HAVE BEEN PUSHING THE ENEMY BACK ALL DAY. HE IS NOW PREPARING A DEFENSE ON THE HIGH GROUND ALONG RED ARROW ROAD. THERE IS ABOUT A PLATOON DEFENDING ON HILL 522. THIS POSITION HAS BEEN OCCUPIED FOR ABOUT 4 HOURS, SO WE CAN EXPECT TO SEE TWO-MAN POSITIONS AND OVERHEAD COVER PREPARED.

OUR COMPANY ATTACKS AS PART OF THE BATTALION'S ATTACK AT 1300 TODAY TO SEIZE OBJ BLUE (HILL 522), AND IT MUST BE PREPARED TO CONTINUE THE ATTACK TO THE WEST. SECOND PLATOON ATTACKS ON OUR LEFT AT 1300 TO SEIZE OBJ 2. THIRD PLATOON SUPPORTS BY FIRE FROM HILL 500. THE COMPANY TOWS WILL SUPPORT FROM THE LD. THE COMPANY'S ORDER OF MOVEMENT WILL BE 1ST PLATOON, COMPANY HEADQUARTERS, 2D PLATOON, AND 3D PLATOON. COMPANY C ATTACKS ON THE RIGHT AT 1300 TO SEIZE OBJ RED. WE HAVE A MEDIC, FO, AND FO RATELO ATTACHED.

WE ATTACK AS PART OF THE COMPANY AT 1300 TO SEIZE OBJ 1, GL137867, AND WILL BE PREPARED TO CONTINUE THE ATTACK TO THE WEST.

OUR PLATOON WILL LEAD THE COMPANY. WE WILL LEAVE THIS LOCATION, USING TRAVELING, AT 1245. WE WILL PASS THROUGH THE ATTACK POSITION, AND CROSS THE LD AT 1300, USING TRAVELING OVERWATCH WITH 1ST SQUAD LEADING, THEN PLATOON HQ, 2D SQUAD, AND 3D SQUAD. WHEN WE REACH THE PLATOON RELEASE POINT, WE WILL FOLLOW THE NORTHWESTERN CREEKBED USING BOUNDING OVERWATCH. THERE WILL BE A 15-MINUTE ARTILLERY PREPARATION OF THE OBJECTIVE. IT WILL BEGIN BEFORE WE REACH THE ASSAULT POSITION. IN THE ASSAULT POSITION, WE WILL DEPLOY ON LINE AND ASSAULT ON MY ORDER. FIRST SQUAD WILL BE IN THE CENTER, 2D SQUAD WILL BE ON THE LEFT, AND 3D SQUAD WILL BE ON THE RIGHT. I WILL CONTROL THE



MACHINEGUNS AND DRAGONS DURING THE ATTACK. OUR PLATOON HAS PRIORITY OR FIRE.

**FIRST SQUAD.** YOU ARE THE BASE SQUAD. SEIZE THE CENTER PART OF THE OBJECTIVE. DURING THE ASSAULT, STAY ORIENTED TO THE SOUTHWEST ABOUT HALFWAY BETWEEN THE HILLTOP ON THE LEFT AND THE ROAD INTERSECTION ON THE RIGHT. SEND ME YOUR DRAGON GUNNER.

**SECOND SQUAD.** SEIZE THE LEFT PART OF THE OBJECTIVE. GUIDE ON, AND TIE IN WITH, THE BASE SQUAD. GIVE ME YOUR DRAGON GUNNER.

**THIRD SQUAD.** SEIZE THE RIGHT PART OF THE OBJECTIVE. GUIDE ON, AND TIE IN WITH, THE BASE SQUAD. SEND ME YOUR DRAGON GUNNER.

AFTER THE OBJECTIVE IS SEIZED, WE WILL CONSOLIDATE BY THE CLOCK METHOD. TWELVE O'CLOCK WILL BE DUE WEST, 270 DEGREES. SECOND SQUAD, CONSOLIDATE FROM 9 TO 11. TIE IN WITH 2D PLATOON'S RIGHT FLANK SQUAD. FIRST SQUAD, CONSOLIDATE FROM 11 TO 1, STAY ON THE WEST SIDE OF THE ROAD, AND PUT OUT AN OP ABOUT 100 METERS TO THE WEST. THIRD SQUAD, CONSOLIDATE FROM 1 TO 3, SEE THAT THE ROADS ON THE NORTH SIDE OF THE OBJECTIVE ARE COVERED, AND PUT AN OP ON THE HILLTOP AT GL134869. I WILL POSITION THE DRAGONS AND MACHINE-GUNS, ONCE ON THE OBJECTIVE. RE-ORGANIZE ACCORDING TO SOP. I WILL INSPECT AT 1215 IN YOUR SQUAD AREAS.

DRAW AND ISSUE YOUR C-RATIONS AND AMMUNITION IN THE ASSEMBLY AREA BEFORE WE LEAVE. EACH RIFLEMAN WILL CARRY AN EXTRA BANDOLEER OF AMMUNITION AND FOUR GRENADES. EACH SQUAD WILL CARRY FOUR LAWs. THE AIDMAN WILL BE WITH THE PLATOON HEADQUARTERS. THE COMPANY AID STATION WILL REMAIN IN THE ASSEMBLY AREA UNTIL THE OBJECTIVE IS SECURED. IT WILL THEN MOVE FORWARD TO

THE EAST SIDE OF THE OBJECTIVE, GL137866.

THE CALLSIGNS AND FREQUENCIES STAY THE SAME. A RED STAR CLUSTER IS THE EMERGENCY SIGNAL FOR SHIFTING SUPPORTING FIRE. I WILL BE BEHIND THE LEAD SQUAD DURING MOVEMENT AND WITH THE 1ST SQUAD DURING THE ASSAULT. THE TIME NOW IS 1050. ARE THERE ANY QUESTIONS? LET'S DO IT.

After the 1st Platoon leader had finished his order, the squad leaders went back to their squad positions and studied the platoon order. From the information in that order, the squad leaders prepared their orders.

The 1st Squad leader is now ready to issue his order to his squad. He uses a terrain model to help explain his order. **He begins:**

LISTEN UP, MEN. THIS TERRAIN MODEL REPRESENTS THE TERRAIN OVER WHICH WE WILL ATTACK. **(He points to the terrain model and points out features.)** THIS IS WHERE WE ARE NOW. THIS ROAD IS CEDAR ROAD WHICH IS THE LD. THIS CREEKBED IS THE GENERAL DIRECTION OF OUR ATTACK TO THE OBJECTIVE. THIS IS THE ASSAULT POSITION. THIS HILL IS THE COMPANY'S OBJECTIVE. THIS IS THE PLATOON'S OBJECTIVE. THIS IS RED ARROW ROAD WHICH RUNS THROUGH THE OBJECTIVE. DOES EVERYONE UNDERSTAND THE TERRAIN MODEL? OK.

THERE IS AN ENEMY PLATOON DEFENDING THE COMPANY'S OBJECTIVE. THE ENEMY HAS OCCUPIED THIS HILL FOR ABOUT 4 HOURS. THEY PROBABLY HAVE TWO-MAN POSITIONS WITH OVERHEAD COVER PREPARED.

OUR PLATOON ATTACKS AT 1300 TO SEIZE OBJ 1, THE NORTHERN PART OF THE COMPANY'S OBJECTIVE. SECOND SQUAD WILL ATTACK ON OUR LEFT, AND 3D SQUAD WILL ATTACK ON OUR RIGHT.

WE ATTACK AS PART OF THE PLATOON AT 1300 TO SEIZE THE CENTER PART OF THE PLATOON'S OBJECTIVE. WE MUST BE READY TO CONTINUE THE ATTACK TO THE WEST.

WE WILL LEAVE THIS LOCATION AT 1245. WE WILL BE FIRST IN THE PLATOON'S ORDER OF MOVEMENT. WE WILL USE TRAVELING OVERWATCH WITH ALPHA TEAM LEADING. WE WILL PASS THROUGH THE ATTACK POSITION AND CROSS THE LD HERE. WE WILL CONTINUE TO FOLLOW THE CREEKBED TO THE PLATOON RELEASE POINT. AT THE RELEASE POINT, WE WILL TAKE THE NORTH-WESTERN STREAMBED. THIS IS WHERE THE PLATOON WILL START BOUNDING OVERWATCH. WE WILL CONTINUE ALONG THIS STREAMBED UNTIL WE REACH THE ASSAULT POSITION. DURING THIS MOVEMENT, THERE WILL BE A 15-MINUTE ARTILLERY PREPARATION ON THE OBJECTIVE. IN THE ASSAULT, WE WILL BE THE PLATOON'S BASE SQUAD. ALPHA TEAM WILL BE ON THE LEFT, AND BRAVO TEAM WILL BE ON THE RIGHT. WHEN THE ASSAULT STARTS, WE WILL STAY ORIENTED TO THE SOUTHWEST ABOUT HALFWAY BETWEEN THE HILLTOP ON THE LEFT AND THE ROAD INTERSECTION ON THE RIGHT.

**ALPHA TEAM:** YOU ARE THE BASE FIRE TEAM DURING THE ASSAULT. INITIALLY DURING MOVEMENT, STAY ABOUT 100 METERS OUT IN FRONT.

**BRAVO TEAM:** DURING THE ASSAULT, GUIDE ON ALPHA TEAM. SEND JONES TO THE PLATOON CP. HE WILL BE THE PLATOON LEADER'S NO. 2 DRAGON GUNNER. SEND THREE MEN TO THE PLATOON CP TO DRAW AMMUNITION AND C-RATIONS AS SOON AS WE FINISH THE ORDER.

FOR CONSOLIDATION, 12 O'CLOCK IS WEST. WE HAVE FROM 11 TO 1. ALPHA TEAM, CONSOLIDATE FROM 11 TO 12, STAY ON THE WEST SIDE OF THE ROAD, AND POST AN OP ABOUT 100 METERS OUT TO OUR FRONT (WEST). I'LL GIVE YOU MORE GUIDANCE ON THE OBJECTIVE. BRAVO TEAM, CONSOLIDATE FROM 12 TO 1, STAY ON THE WEST SIDE OF THE ROAD, AND TIE IN WITH ALPHA TEAM ON THE LEFT. REORGANIZATION WILL BE BY SOP. THERE WILL BE AN INSPECTION BY THE PLATOON LEADER AT 1215 HOURS.

C-RATIONS AND AMMUNITION WILL BE ISSUED HERE BEFORE WE LEAVE. EACH RIFLEMAN WILL CARRY AN EXTRA BANDO-LEER OF AMMUNITION AND FOUR GRENADES. EACH TEAM WILL HAVE TWO LAWs. THE AIDMAN WILL BE WITH THE PLATOON LEADER.

A RED STAR CLUSTER IS THE EMERGENCY SIGNAL TO SHIFT SUPPORTING FIRE. I WILL BE BETWEEN ALPHA AND BRAVO TEAMS DURING MOVEMENT AND ASSAULT. THE TIME IS NOW 1130. ARE THERE ANY QUESTIONS? OK, START GETTING READY.



## Section VII

# RIFLE PLATOON AS RESERVE OF THE COMPANY IN AN ATTACK

### INTRODUCTION

One rifle platoon may be withheld as the company reserve during an attack. The company commander commits the reserve platoon to best influence the action and to maintain the momentum of the attack. To exploit the success of the other attacking platoons, the reserve platoon should attack the enemy from a new direction. Because of the various missions which the reserve may be assigned, its platoon leader must keep abreast of the tactical situation, know the missions and tactical plans of the other platoons, and be familiar with the terrain and enemy situation in the objective area. The reserve platoon must react quickly and effectively when committed.

### MISSION OF THE RESERVE

The reserve rifle platoon may be assigned one or more of the **following missions**:



- Protect the flanks or the rear of the company.
- Maintain contact with adjacent units.
- Clear a position which has been overrun or bypassed by the attacking platoons.
- Support the attacking platoons by fire.
- Assume the mission of an attacking platoon.
- Attack from a new direction.
- Protect or assist the consolidation and reorganization on the objective.
- Guard and evacuate prisoners.

## Section VIII

## LIMITED VISIBILITY ATTACK

## INTRODUCTION

Platoons may attack at night and during other periods of limited visibility as a part of a company. This is done to gain surprise, to press the enemy, to exploit the success of daylight operations, or to avoid heavy losses by using limited visibility as concealment.

Darkness is just one condition that reduces the soldier's ability to see. Smoke, fog, dust, and heavy rain or snow also limit visibility. This section discusses the night attack, but the techniques (with slight modifications) apply to attacks at times when visibility is reduced by other conditions.



A night attack may be **nonilluminated** or **illuminated**. In either case, illumination must always be planned. The attack may start nonilluminated and end illuminated. The company commander or battalion commander will normally decide which method to use or when to illuminate. Sources of illumination may be ground-fired flares, grenade launcher illuminating rounds, mortar and field artillery illuminating rounds, or aircraft flares. Nightsights and night vision devices should be used to ease movement and control.

Tactics for the illuminated attack are about the same as for the daylight attack.

This section describes the nonilluminated attack by stealth. The attacker tries to get as close to the enemy as he can without being detected. He tries to surprise the enemy with the assault. In order to do this, leaders must



have detailed intelligence about the enemy. They must know the terrain, conduct detailed planning, and conduct several rehearsals of the attack. Preparations may take up to several days. Conditions may exist in which the attack can be made by stealth to a point and then illumination used the rest of the way. For example, the enemy might have wire, minefields, or other obstacles to the front of his positions which can only be cleared or breached with the help of illumination. This may require blowing or breaching a path through the obstacles before the infantry can assault. Artillery and other supporting fire can be placed on the enemy to cover breaching operations. Illumination is used as needed.

Control of squads and platoons is much more difficult at night. Strict light and noise discipline is required.

## ATTACK CONTROL MEASURES TO USE WHEN VISIBILITY IS LIMITED

**Assembly Area.** The assembly area is smaller and closer to the LD than for a daylight attack.

**Attack Position.** The attack position is always used for a night attack. It should be in defilade and should be easy to enter and exit.

**Line of Departure (LD).** Same as daylight attack.

**Point of Departure (PD).** A point of departure is the exact place where a unit crosses the LD. It is normally set by the company commander.

**Release Points (RP).** The company commander releases control of his platoons to the platoon leaders at the platoon RP. Each platoon leader releases control of his squads to the squad leaders at the squad RP. Release points are far enough back to let units deploy before they reach the probable

line of deployment. However, they are far enough forward to permit centralized control as long as possible. The platoon and squad RPs are normally beyond the LD.

**Route.** The company commander picks the route from the assembly area to the platoon RP. Each platoon leader picks the route from the platoon RP to the squad RP. Routes should be easy to move and navigate on. They should conceal troops from enemy night vision devices. Guides may help in the movement from RPs to the probable line of deployment.

**Probable Line of Deployment (PLD).** The PLD is where the company commander plans to complete deployment before moving forward with platoons on line, and squads on line. If the attack is not yet discovered at the PLD, the unit should stay silent until discovered or ordered to assault. The PLD should be on a terrain feature that is recognizable at night. It should be perpendicular to the direction of attack and as close as possible to known enemy positions on the objective without risking detection.

**Objectives.** The company commander assigns each platoon an objective, which should be on an easy-to-identify terrain feature. Platoon objectives should be small enough for a platoon to seize and clear in a single assault. Intermediate objectives should not be used in night attacks.

**Limit of Advance.** It should be easy to recognize in the dark (**a stream, road, edge of woods**) and far enough beyond the objective so security elements have space in which to operate. Fire support units are free to fire at targets beyond this line.

**Additional Control Techniques.** Other ways to ease control may include the use of —

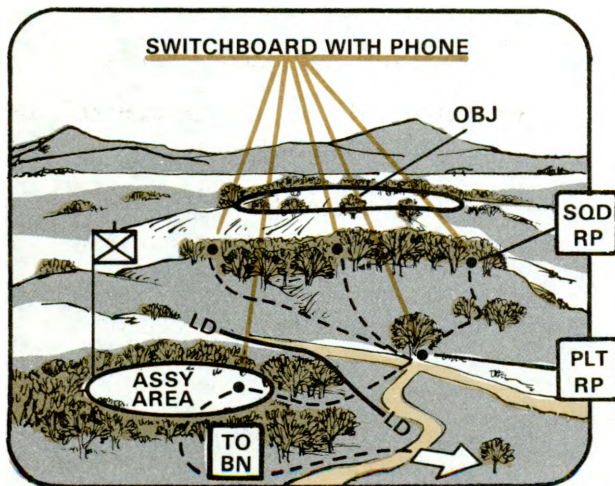
- magnetic azimuth for maintaining direction,

- mortar or artillery rounds to orient attacking units,
- friendly tracer fire to help troops maintain direction,
- guides,
- reduced intervals between men and between squads,
- a base squad or fire team on which all others in the platoon base their speed and direction,
- infrared or other night vision devices, and
- identification of friendly troops by use of luminous tape or arm-bands.

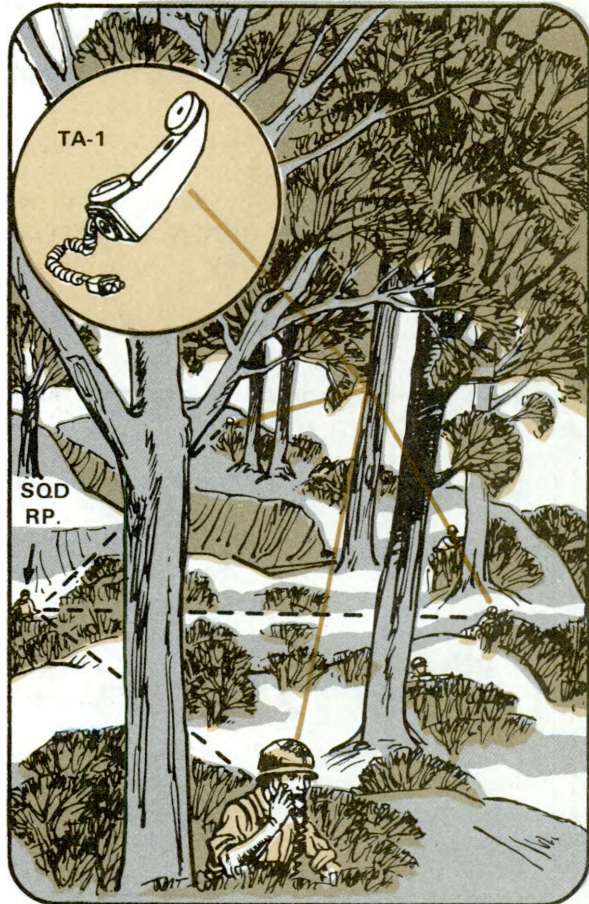
## COMMUNICATIONS

Wire is the main means of communications until the attack is discovered. The wire net should link the squad leaders, platoon leaders, and company commander. If possible, a security patrol should lay the wire before the attack. If not, the wire can be laid as the platoons move.

■ **Company net.** Wire is laid from the company's assembly area to the platoon RP, and from there to the squad RPs.



■ **Platoon net.** Wire is laid from the squad RP to each squad leader's position on the PLD.



■ The laying of wire before an attack could cause the attack to be discovered by the enemy if the wire is not properly hidden.

■ Other ways to communicate are by infrared and flashlight signals, personal contact, messengers, radios, flares, or whistles.

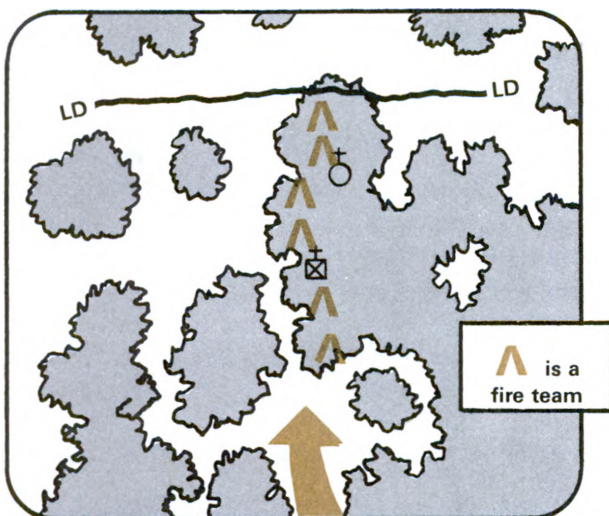
## FORMATIONS AND MOVEMENT TECHNIQUES

**Formations.** Formations are based on visibility, distance to the objective, and the likelihood of contact. Platoons should not deploy on line until they are in assaulting distance of the objective.



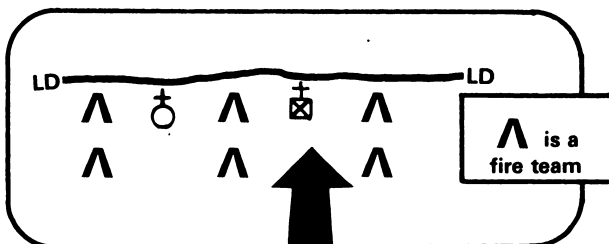
The commander will decide what the company formation will be. The platoon formation will depend on its position in the company formation, the terrain, and the enemy situation. The platoon may cross the LD in column with squads in column when —

- visibility does not permit any other formation,
- distance to the objective is great, or
- early contact with the enemy is not expected.



The platoon may cross the LD in a platoon line, squads in column, when —

- visibility permits,
- distance to the objective is short, or
- early contact with the enemy is expected.



If the company is in contact with the enemy and the distance to the objective is short, the LD is the PLD. In this case, the platoons cross the LD/PLD on line, with their squads also on line.

**Movement Techniques.** The distances between men, fire teams, and squads are based on the visibility, terrain, and any other factors that affect control. Since visibility is poor, platoons and squads normally move either by **traveling** or by **traveling overwatch**. **Bounding overwatch** is rarely used at night without the help of night vision devices.

**Position of Leaders.** Leaders stay near the front of their units for control.

## SECURITY PATROLS

Before a night attack, if there is enough time and the enemy situation permits, each platoon sends a four- to six-man patrol to secure its part of the PLD. Each patrol will also guide its platoon from the platoon RP to the PLD.

The company order specifies —

- the size of each platoon's patrol,
- the time and place for the platoon patrols to link up and receive the company briefing,
- the time of departure, and
- who will be in charge of the platoon patrols.

Before a platoon leader sends his platoon's patrol to receive the company briefing, he briefs it on —

- who (from the company) will be in charge of all of the platoon patrols,
- the route from the platoon RP to the PLD,

- the location of the squad RP,
- the positions of patrol members on the PLD,
- the recognition signals to be used between the guides and the platoon,
- the duties of guides, and
- laying of communications wire from the platoon RP to the PLD. (This may not always be done by the security patrol. It may be done later by the platoon. Leaders must insure that the wire is hidden if laid before the attack.)

During the company briefing, the patrol is briefed on —

- the route from the LD to the platoon RP,
- actions on enemy contact,
- time of departure, and
- any other information needed by the patrols to perform their mission.

The patrols, under the control of the senior patrol leader, move forward to the platoon RP. They then move forward and secure their respective parts of the PLD and observe the objective, using night vision devices. The platoon guides come back to the platoon RP to guide their platoons to the squad RP and to the PLD. Each patrol leader and the rest of his patrol members stay on the PLD and help position the squads when they arrive.

## SUPPORTING FIRE IN A NIGHT ATTACK

The platoon attacks taking its Dragon and machineguns with it — leaving no fire element. The company commander controls the supporting fire. If the attack is to be made

by stealth, fire is planned but is delivered only on call. Fire is planned on the objective, and on its flanks and rear to isolate it during consolidation.

## PLANNING FOR THE ATTACK

More time is needed to plan and coordinate for a night attack than for a daylight attack. The scheme of maneuver and fire support plan must be simple.

On receipt of the warning order, the platoon leader starts his troop leading procedure, as described in chapter 2.

After getting the company attack order, if there is enough time, the platoon leader plans for —

- reconnaissance by leaders in daylight, at dusk, and in darkness (this gives them a chance to see the ground in different light levels);
- a security patrol;
- control measures, formations, and movement techniques from the assembly area to the objective;
- use of machineguns, Dragons, and fire support;
- action at the PLD;
- action when the attack is discovered;
- the assault; and
- consolidation.

A night attack order is more detailed than a daylight attack order because more control measures and special instructions are needed.



## CONDUCT OF THE ATTACK

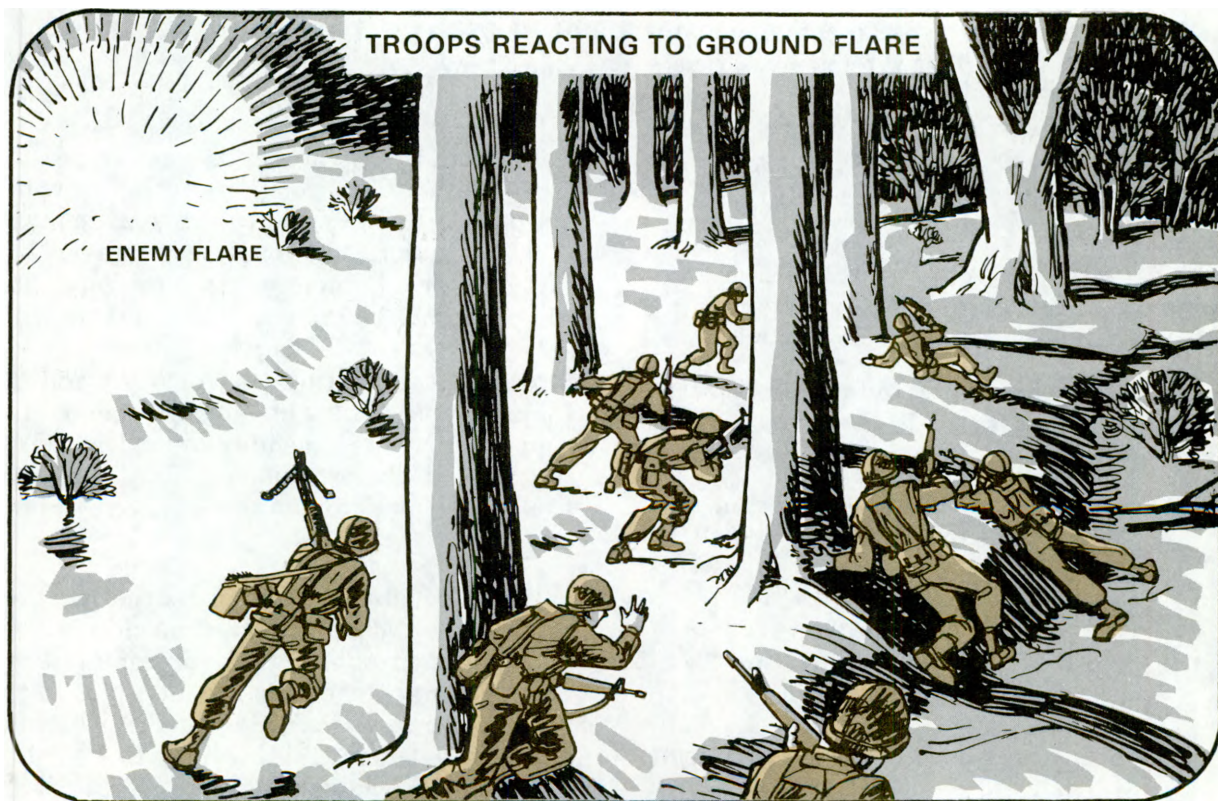
The company moves from the assembly area, crosses the LD, and moves to the platoon RP. At the platoon RP, the platoons meet their guides and continue to their squad RPs. The platoon uses its night vision devices to help detect the enemy.

Once the company crosses the LD, movement to the PLD is continuous. The rate of advance is slow to maintain stealth.

If enemy flares burst overhead as troops are moving, the troops quickly lie down until the flares burn out.

If caught in the light of a ground flare, troops move out of the lighted area quickly and quietly.

If the attack is to be illuminated, the battalion commander or company commander will give the signal to start illumination.



Squads are released at the squad RP so they can be deployed before they reach the PLD. Members of the security patrols help the squad leaders position the squads on the PLD. Once their men are deployed, the squad leaders notify their platoon leader.

When each platoon is fully deployed, its platoon leader informs the company commander. On the commander's order, platoons move forward silently from the PLD. They guide on the **base platoon**; the squads guide on the **base squad**.

When the attack is discovered, or on the company commander's order, the platoons assault. Scattered enemy fire must not be taken as loss of surprise and should not be cause to start the assault.

Once the assault is started, troops assault aggressively. They move by fire and maneuver using short rushes. This is done either singly, by pairs, by fire teams, or by squads. They must quickly gain fire superiority with a heavy volume of fire. Troops shout and create noise to confuse the enemy. Tracers are used to get better accuracy, to help control fire, and to scare the enemy. The FO calls for indirect fire around the objective to stop enemy reinforcement. Troops must not go beyond the **limit of advance**.

When the objective has been seized, platoons consolidate and reorganize. OPs are posted, but not beyond the limit of advance.

If the enemy discovers the attack before the company reaches the PLD, **the company commander —**

- **calls for planned supporting fire to suppress the enemy,**
- **calls for illumination to ease control and movement, and**
- **continues as if it were a daylight attack.**

**EXAMPLE OF A LIMITED VISIBILITY  
ATTACK SITUATION AND  
A PLATOON ORDER**

The battalion commander has ordered Company A to conduct a nonilluminated night attack at 0200 to seize OBJ RED. OBJ RED is defended by an enemy platoon which has occupied it for 12 hours.

Company A, 1-67th Infantry, has three rifle platoons, a weapons platoon, and a company headquarters. It is now in an assembly area behind a forward unit.

Company A is preparing for the attack. The leaders have already conducted their reconnaissance. The security patrols have posted their guides and secured the PLD. The wire is already laid. The passage of lines through the forward unit has been coordinated.

Commander, Company A, has decided to cross the LD in company column with platoons in column and continue in column to the platoon RP. The order of march will be 1st Platoon, Company Headquarters, 2d Platoon, and 3d Platoon. Company A will attack with 1st Platoon on the right, 2d Platoon in the center (**base platoon**), and 3d Platoon on the left. The Mortar Section will support from the assembly area. The TOW Section will support from the LD. Priority of fire is to the 2d Platoon.

The 2d Platoon leader has received the company attack order. He has decided to maintain control of the Dragons and attach the No. 1 machinegun to the 1st Squad, and No. 2 machinegun to the 3d Squad. As there is no good position from which to see the objective, the platoon leader uses a terrain



model to explain his order to the squad leaders, platoon sergeant, and FO. He begins:

OK, MEN. LET ME EXPLAIN THIS TERRAIN MODEL. THIS HILL IS WHERE WE ARE NOW. (He points to each terrain feature as he talks about it.) THIS IS THE ATTACK POSITION. THIS IS THE LINE OF DEPARTURE, RED ARROW ROAD. THIS IS THE POINT OF DEPARTURE ON THE LINE OF DEPARTURE. THIS IS THE STREAMBED THAT WE WILL GUIDE ON. THESE ARE THE PLATOON AND SQUAD RELEASE POINTS. THIS IS THE PROBABLE LINE OF DEPLOYMENT. THIS IS OBJECTIVE RED. THIS IS ROCK ROAD. THIS IS THE LIMIT OF ADVANCE. THESE ARE THE DOMINANT TERRAIN FEATURES ALONG OUR ROUTE. ARE THERE ANY QUESTIONS ON THE TERRAIN MODEL?

#### NOTE:

The example order will include only paragraphs 2 and 3 — MISSION and EXECUTION.



WE ATTACK AS PART OF THE COMPANY AT 0200 TO SEIZE THE CENTER PART OF OBJ RED, GL115869. WE MUST BE PREPARED TO CONTINUE THE ATTACK TO THE WEST.

WE WILL BE THIRD IN THE COMPANY'S ORDER OF MOVEMENT. WE WILL FOLLOW THE COMPANY HEADQUARTERS, AND THE 3D PLATOON WILL FOLLOW US. WE WILL LEAVE HERE BY **TRAVELING** AT 0130. OUR ORDER OR MOVEMENT WILL BE 1ST SQUAD, PLATOON HQ, 2D SQUAD, AND 3D SQUAD. WE WILL PASS THROUGH THE ATTACK POSITION, AND PASS THROUGH THE POINT OF DEPARTURE. WE WILL MOVE ALONG THIS CREEKBED, STILL BY **TRAVELING**, UNTIL WE REACH THE PLATOON RELEASE POINT. WE WILL MEET OUR GUIDE, SGT BROWN, AT THE PLATOON RELEASE POINT. WE WILL USE **TRAVELING OVERWATCH** FROM THERE TO THE SQUAD RELEASE POINT. THE SQUAD GUIDES, SP4 SMITH, JONES, AND CARTER, WILL MEET US AT THE SQUAD RELEASE POINT. EACH SQUAD GUIDE WILL LEAD HIS SQUAD TO ITS PART OF THE PROBABLE LINE OF DEPLOYMENT WHICH RUNS GENERALLY FROM HERE TO HERE. (He shows them the PLD on the map and terrain model.) WE WILL DEPLOY WITH 1ST SQUAD ON THE LEFT, 2D SQUAD IN THE MIDDLE, AND 3D SQUAD ON THE RIGHT. AFTER WE ARE DEPLOYED, WE WILL MOVE FORWARD ON MY ORDER. IF WE ARE DISCOVERED, OR ON MY ORDER, WE WILL ASSAULT. THERE WILL BE NO INDIRECT FIRE PREPARATION ON THE OBJECTIVE. THIS WILL BE A NONILLUMINATED ATTACK. IF THE ENEMY DISCOVERS OUR ATTACK BEFORE WE REACH THE PROBABLE LINE OF DEPLOYMENT, THE COMPANY COMMANDER MAY DECIDE TO ATTACK UNDER ILLUMINATION. EITHER WAY, OUR PLATOON WILL HAVE PRIORITY OF FIRE ONCE THE ASSAULT STARTS.



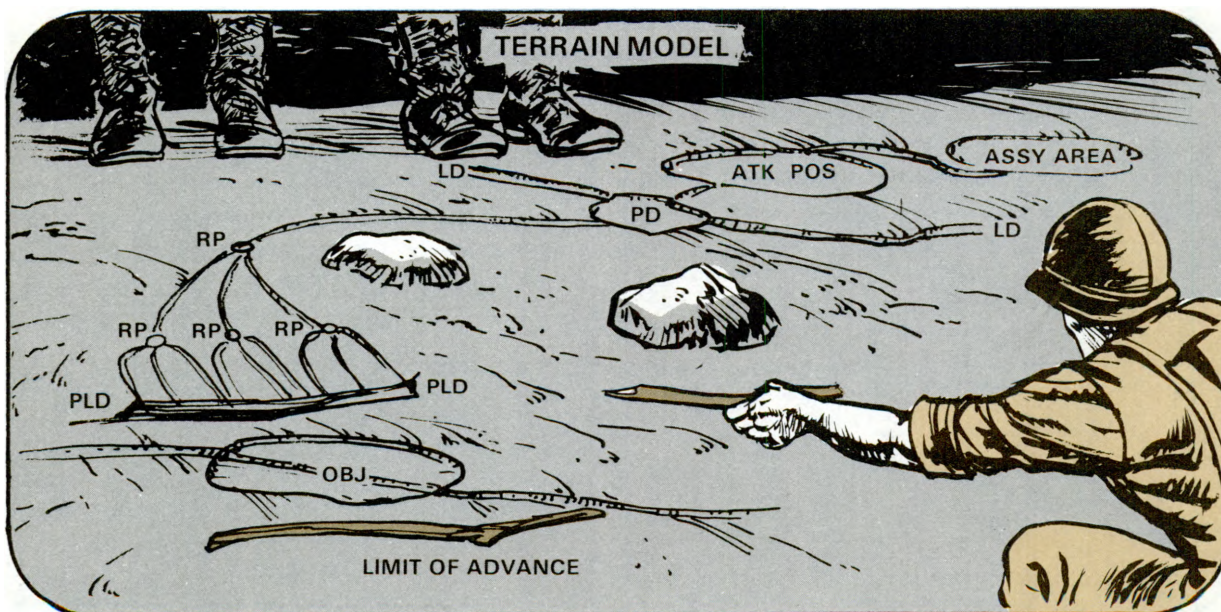
**FIRST SQUAD.** AT THE PROBABLE LINE OF DEPLOYMENT AND IN THE ASSAULT, GUIDE ON THE 2D SQUAD ON YOUR RIGHT.

**SECOND SQUAD.** YOU ARE THE BASE SQUAD IN THE ASSAULT. MOVE ON AN AZIMUTH OF 200 DEGREES.

**THIRD SQUAD.** AT THE PROBABLE LINE OF DEPLOYMENT AND IN THE ASSAULT, GUIDE ON 2D SQUAD ON YOUR LEFT.

THE LIMIT OF ADVANCE IS THE RIDGELINE 250 METERS TO THE SOUTHWEST OF THE OBJECTIVE. WHEN YOU FEEL YOURSELF GOING DOWNHILL, YOU WILL BE AT THE LIMIT OF ADVANCE. THE DIRECTION OF ATTACK ACROSS THE OBJECTIVE IS 200 DEGREES. SEE THAT EACH MAN HAS TWO STRIPS OF LUMINOUS TAPE ON THE BACK OF

HIS HELMET. ALL SQUAD LEADERS MUST WEAR AN ARMBAND WITH ONE LUMINOUS STRIP ON THEIR LEFT ARMS. I WILL WEAR TWO STRIPS ON MY ARMBAND. HAVE EACH MAN CAMOUFLAGED AND ALL EQUIPMENT TIED DOWN. ENFORCE LIGHT AND NOISE DISCIPLINE. AFTER THE OBJECTIVE IS SEIZED, WE WILL CONSOLIDATE BY THE CLOCK METHOD. TWELVE O'CLOCK WILL BE THE DIRECTION OF ATTACK. FIRST SQUAD, CONSOLIDATE FROM 9 TO 11. POSITION NO. 1 MACHINEGUN ON THE LEFT FLANK AND FIRE ACROSS OUR FRONT. SECOND SQUAD, CONSOLIDATE FROM 11 TO 1. THIRD SQUAD, CONSOLIDATE FROM 1 TO 3. POSITION NO. 2 MACHINEGUN ON THE RIGHT FLANK AND FIRE ACROSS OUR FRONT. I WILL POSITION THE DRAGONS ON THE OBJECTIVE. EACH SQUAD, PUT AN OP OUT 50 METERS FORWARD OF YOUR POSITION. WE WILL REORGANIZE ACCORDING TO SOP. I WILL MAKE ADJUSTMENTS TO YOUR POSITIONS IF NECESSARY. THERE WILL BE A REHEARSAL AT 1930. WE WILL FORM UP RIGHT HERE. THE FINAL INSPECTION WILL BE AT 2330.





The platoon leader completed his order and the squad leaders, platoon sergeant, and FO started final preparations.

The squad leaders issued their orders to their men. At 2330, the platoon leader inspected the platoon.

At 0130, the company starts moving. The company passes through the attack position, passes through the 2-68th, crosses the LD at the PD, and moves to the platoon RP. At this point, the platoons meet their guides. The platoon leaders take control of their platoons. The platoon leaders' RATELOs tie in to the company switchboard.

The 2d Platoon starts moving using **traveling overwatch**. The platoon guide leads the lead squad to the squad RP. When the whole platoon reaches the squad RP, the squad guides pick up their squads and lead them to the PLD. Before leaving the squad RP, the squads tie in to the platoon switchboard.

The platoon leader goes with the 2d Squad (base squad). When the squads reach the PLD, they deploy their men on line and the flank squads guide on the base squad. Once deployed, the squad leaders report to the platoon leader, and the platoon leader reports to the company commander.

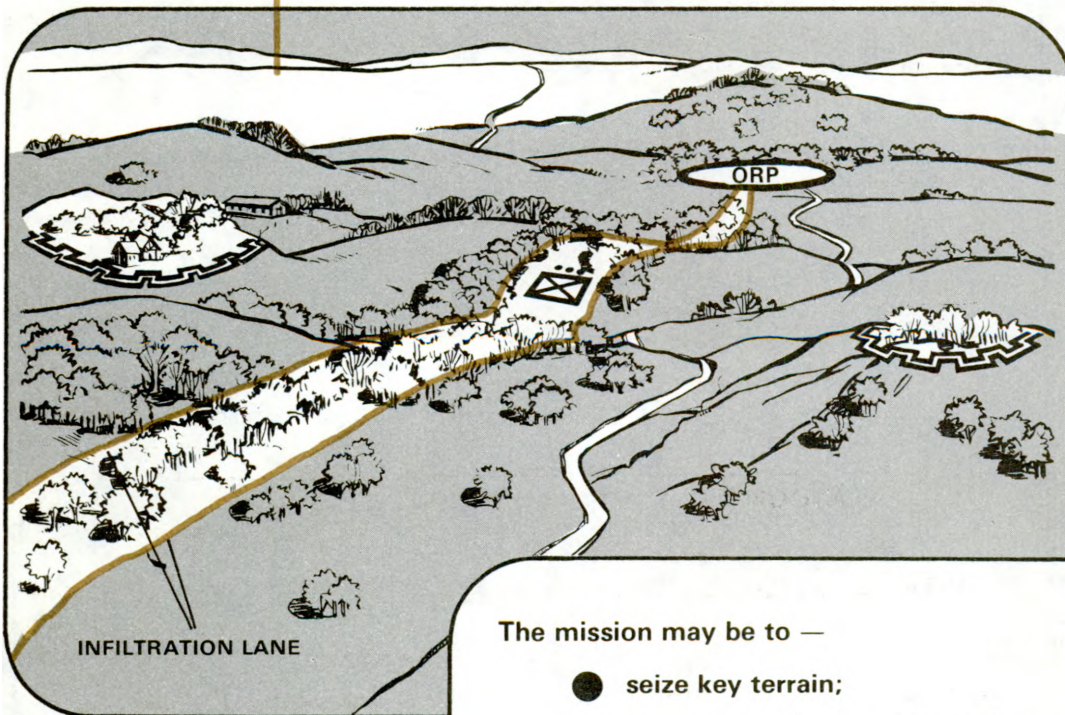
When the company is deployed on the PLD, the commander orders his platoons (by wire) to move forward. After moving 60 meters, 2d Platoon receives effective rifle fire from the front. The company commander orders the platoons to begin the assault. All men return fire at once and start fire and maneuver. Indirect fire is called for on and beyond the objective. Control is difficult and movement is slow, but the enemy is overcome and the objective is seized. Consolidation and reorganization are started at once.

## Section IX

# INFILTRATION

### INTRODUCTION

Infiltration is the movement of a unit by stealth around or through enemy positions in order to conduct another mission. It is used when the enemy is dispersed and has gaps between his units.



The mission may be to —

- seize key terrain;
- destroy the enemy or his vital installations;
- aid a main attack;
- attack enemy reserves, fire support units, and command posts; or
- gather intelligence.



Infiltration is best done when visibility is poor and in close terrain or in areas which the enemy does not occupy or cover by fire. These conditions allow undetected movement of platoons or squads where larger units would have more risk of detection.

A platoon may infiltrate by itself or as part of its company. A squad may infiltrate by itself or as part of its platoon. In either case, movement techniques are based on likelihood of enemy contact and the ability to see and control. The platoon or squad may have to use **traveling overwatch** when visibility is too poor to use **bounding overwatch**.

An infiltrating platoon will normally be assigned an infiltration lane. The platoon leader must decide whether to move the entire platoon on a single route through the lane or have each squad move on a separate route. If a single route is used, the platoon leader must pick a route through the enemy positions and an objective rally point (ORP) to move to. If multiple routes are used, the platoon leader must pick a route for each squad, a rendezvous point at which the platoon will link up, and an ORP.

The routes selected must—

- avoid enemy positions;

- have cover and concealment, and
- ease control and navigation.

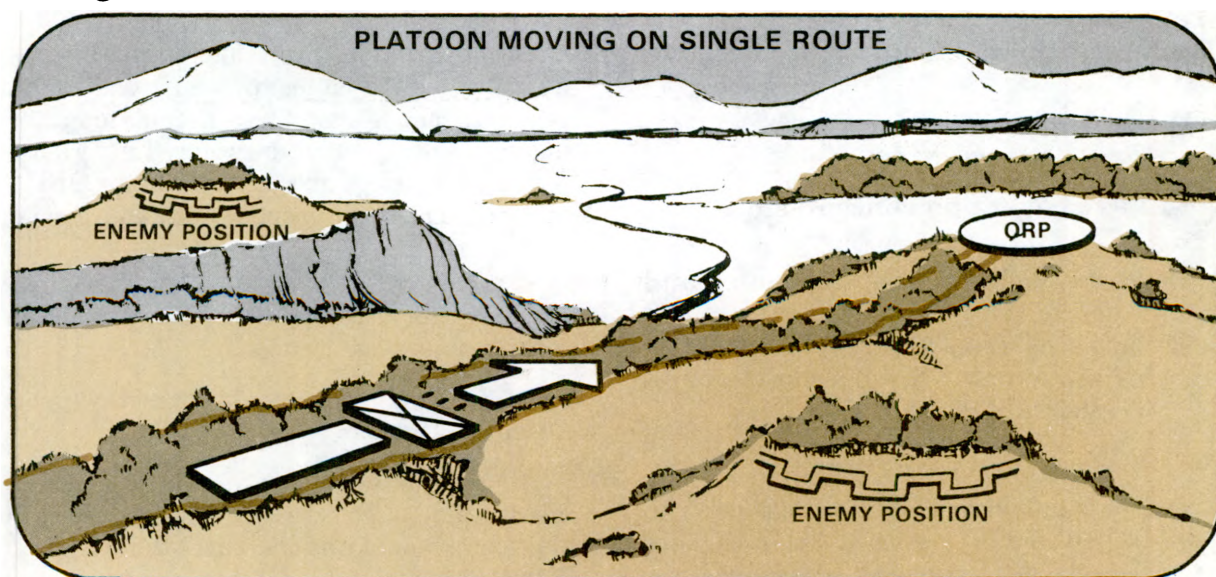
In making his decision whether to use single or multiple routes, there are several things the platoon leader should consider.

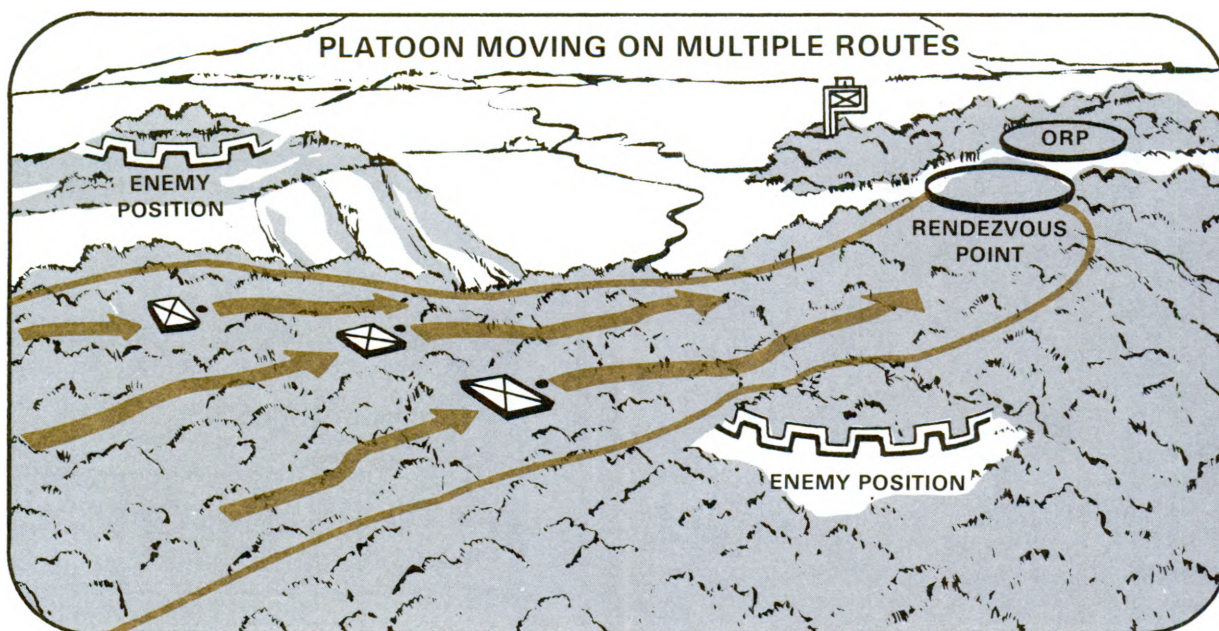
**Moving on a single route will —**

- get the platoon to its ORP faster,
- make control easier,
- make navigation easier, and
- increase the chances of the entire platoon being detected.

**Moving on multiple routes will —**

- get the platoon to its ORP slower,
- make control more difficult,
- make navigation more difficult, and
- decrease the chances of the entire platoon being detected.





**Rally points are designated along each route where the unit can—**

- **reassemble and reorganize if dispersed, or**
- **halt to reorganize and prepare before occupying the rendezvous point or ORP.**

**Each rally point should**

- **be easy to find,**
- **have cover and concealment,**
- **be defensible in all directions, and**
- **be away from likely enemy routes of movement; for example, roads, trails, ridgelines.**

Routes should be reconnoitered as much as possible without giving away the plan. This may be possible by map reconnaissance only.

Some rally points can be picked based on a map reconnaissance; others are picked as the platoon moves along the route. If a platoon is dispersed by enemy action, its plan should provide for continuing the mission after a set number of men arrive at the rally point or after a specified time. The senior man at the rally point should, in the absence of the platoon leader, decide how to best continue with the mission.

The ORP should be as close to the objective as it can be without loss of security. It should be large enough so that the platoon can deploy in it. It should be secured before it is occupied. Leaders may leave from the ORP to reconnoiter the objective to confirm or change the plan.

The platoon leader also uses any other control measures needed.

The platoon leader should plan fire support for an infiltration.

The squads should take only that equipment needed. Excess of bulky equipment slows movement and increases the chance of detection.

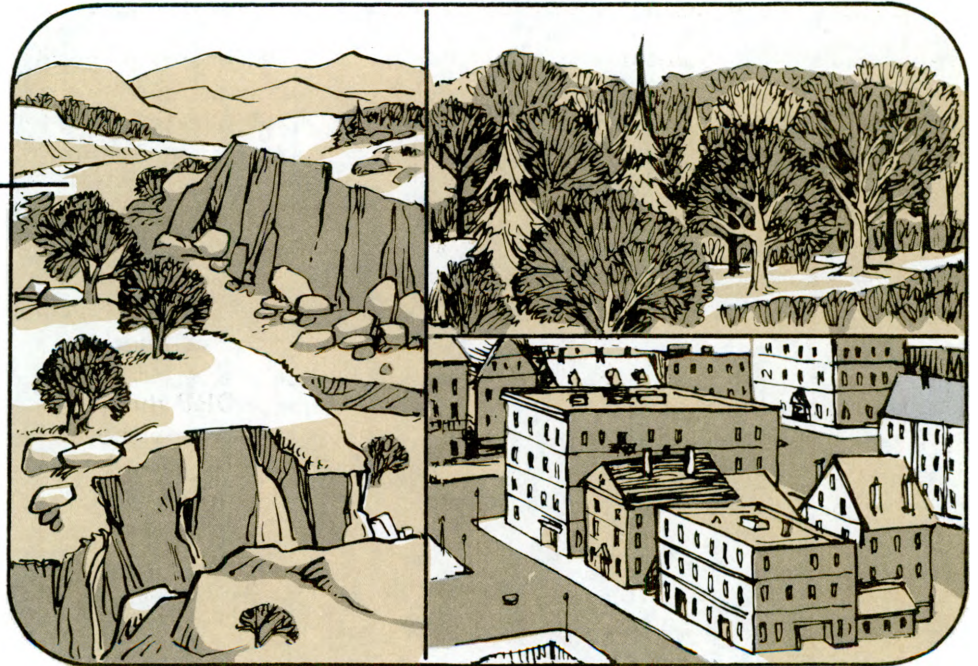


## CHAPTER 4

# DEFENSE

### GENERAL

Infantry defends best in rugged or heavily wooded terrain or in urban areas which restrict vehicular movement. It relies on a well-positioned, well-prepared, relatively fixed defense. This is called a “**position defense.**”



A platoon normally defends as part of a company to deny an area to the enemy, protect flanks, or disorganize and destroy the enemy.

A platoon defends by stopping the enemy by fire forward of its position or by repelling him if he reaches that position.

## Section I

# HOW THE ENEMY ATTACKS

### INTRODUCTION

As described in chapter 1, the enemy thinks of the offense as the preferred form of combat. Both enemy infantry and motorized rifle units conduct three main forms of the offense: the meeting engagement, the breakthrough, and the pursuit.

### THE MEETING ENGAGEMENT

In a meeting engagement, two opposing forces meet each other unexpectedly. Both forces start to fight with little or no warning.

An enemy company will start a meeting engagement from a march column. When the column meets a moving hostile force, the point of the column will fight the hostile force to destroy it. If it cannot, the point will attempt to hold the force in place. The rest of the column will make a hasty attack to a flank to try to surround or bypass the hostile force. The enemy teaches that aggressive action without halting for preparation is more likely to succeed in this type action because of the advantage of surprise.



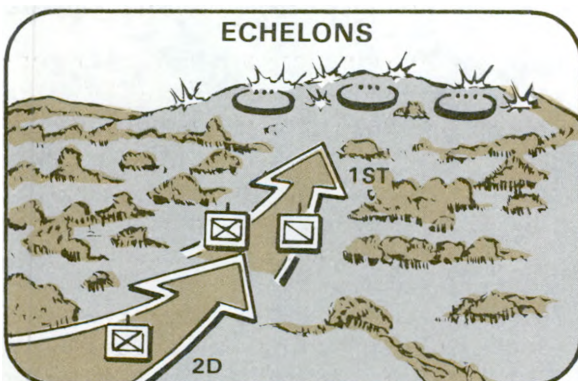


## THE BREAKTHROUGH

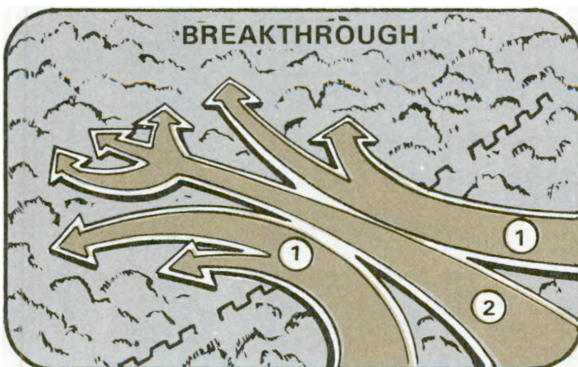
Against an established defense, enemy forces will try to break through to the rear. The goal is to destroy the hostile force rather than to seize terrain objectives.

An attack starts with a 30- to 60-minute artillery preparation. At this time, the enemy battalion deploys as close to the defensive position as the terrain permits. The normal attack formation has two echelons. Two companies are in the first, and one company in the second.

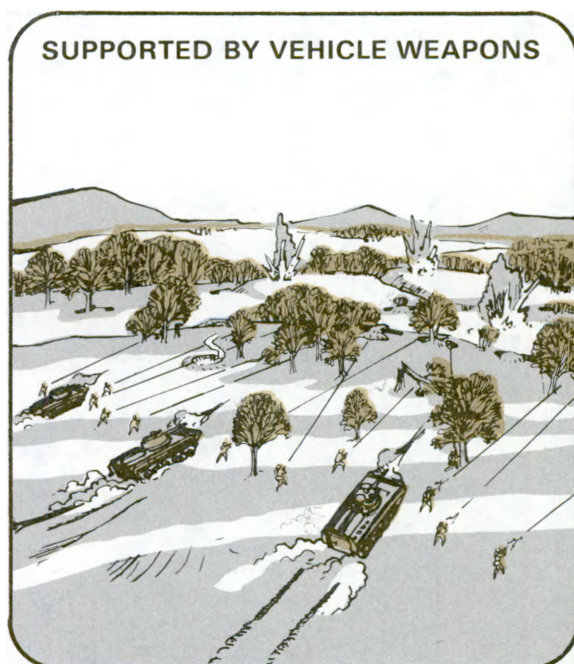
These echelons follow artillery fire as closely as possible to exploit the effects of impacting rounds. Tanks, when present, lead the infantry.



The mission of the first echelon is to seize a weak part of the defense to permit the passage of the second echelon. The second echelon's mission is to drive deep into the rear to disrupt the hostile defense.



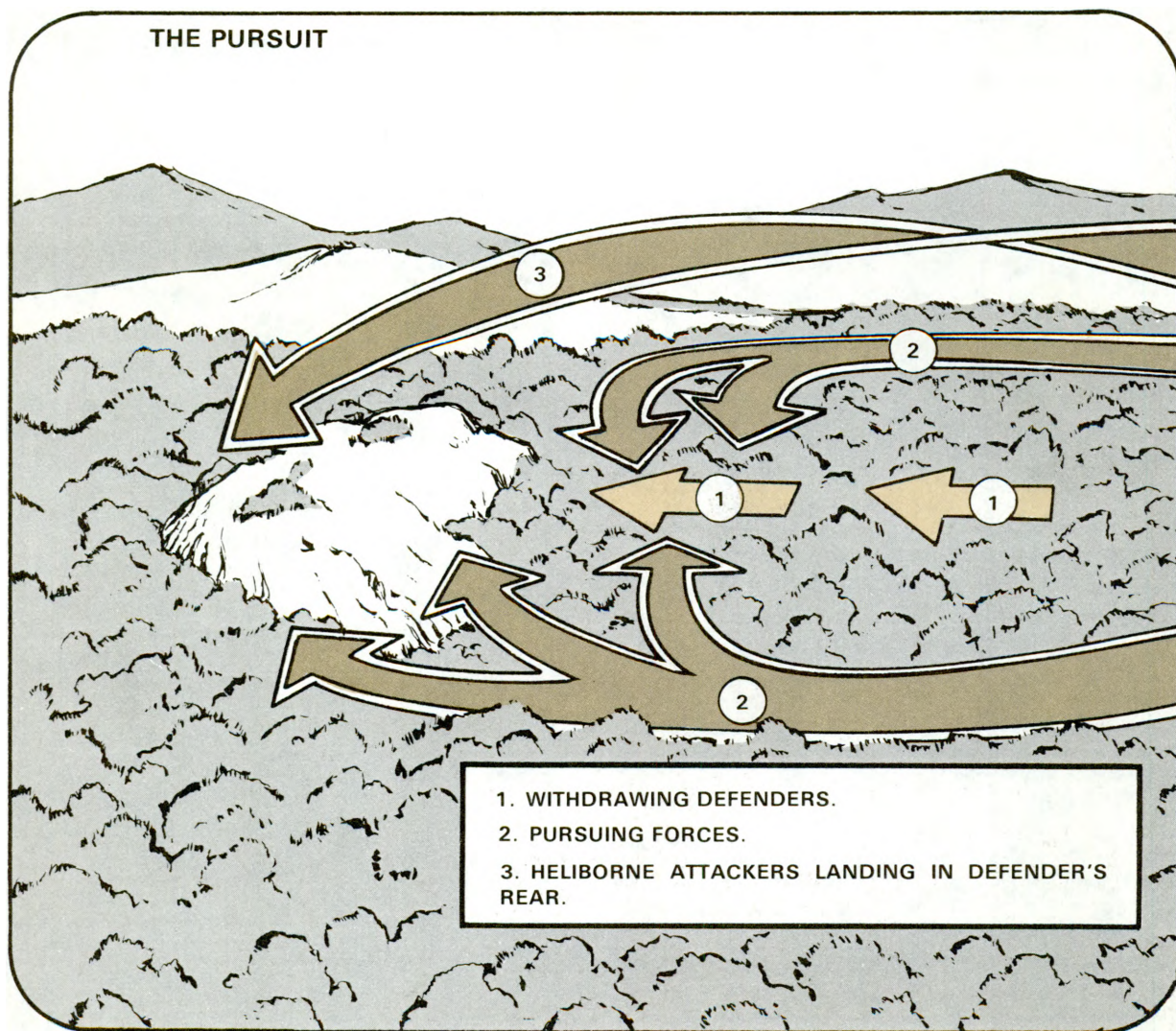
Enemy motorized rifle troops in the attack stay in their vehicles as long as they can — preferably throughout the attack. Troops fire from firing ports in the vehicles as they sweep over the objective. If forced to dismount by antiarmor fire, motorized rifle troops will move in skirmish lines supported by the weapon of their vehicle. The last 100 meters will be covered at a run to exploit the shock of supporting fire. Automatic fire and hand-to-hand combat will be used against the defensive position.



Enemy infantry units in the attack try to make deep penetrations and to avoid frontal assaults. They use rugged, unlikely routes to surround the defenders. Infiltration units are used to support the attack by getting into the rear of the defense. For example, an infantry company may send one of its squads to infiltrate the hostile defense to destroy a command post. The second-echelon company of an infantry unit exploits in a way similar to that of the second echelon of a motorized rifle battalion.

## THE PURSUIT

A pursuit is intended to complete the destruction of a fleeing hostile force. Enemy troops will pursue on routes parallel to the retreating force rather than follow it. They try to move faster than the retreating force in order to ambush and destroy it. Airborne and airlanded troops may block critical terrain.





## Section II

# PREPARATION FOR THE DEFENSE

### INTRODUCTION

On receipt of a company defense order, the platoon leader starts his troop leading procedure, as described in chapter 2, and makes an estimate of the situation. His estimate is a consideration of the **mission, enemy, terrain and weather, and troops available (METT)**.

### ANALYZING TERRAIN

To plan a defense, leaders **analyze these aspects of the terrain on which they will defend:**

**Observation and fields of fire.** The platoon leader must decide where his weapons will have the best fields of fire to cover the platoon sector. Observation is needed to gain information of the enemy, to adjust indirect fire, and to shoot direct fire accurately. Fields of fire are cleared at least out far enough to kill the enemy before he can assault or throw hand grenades into fighting positions. Fields of fire are improved by **selectively** clearing grass, brush, trees, and rubble. That which is cut down is removed. Fresh cuts are camouflaged so the enemy cannot see what has been done.

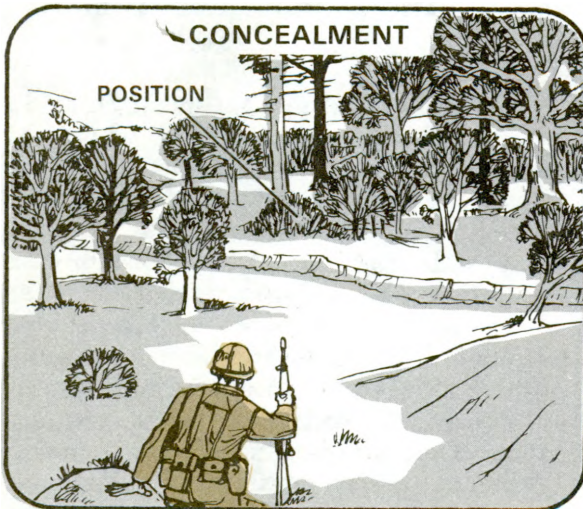


### Cover and Concealment.

**Cover** from fire for men and weapons includes rocks, stumps, buildings, depressions, or anything which will stop bullets and shell fragments. Frontal cover lets a man shoot without exposing his head to his front. Natural frontal cover is best. It is harder for the enemy to detect and takes less work. When there is not enough natural cover, troops build frontal parapets. They also build overhead cover (**appendix D**) to protect against indirect fire.



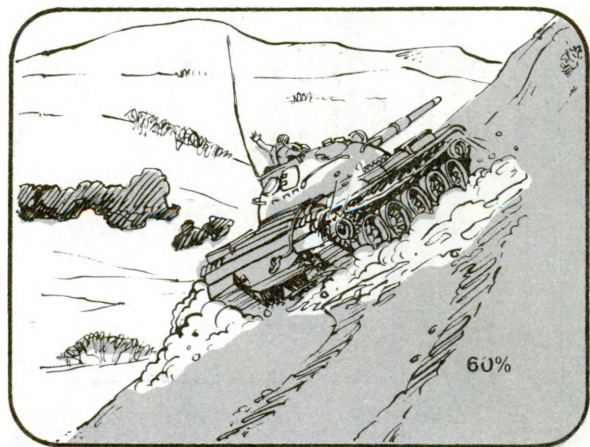
**Concealment** hides men and weapons. It will not always protect them from fire. Leaves and bushes can hide a position. Soldiers should check their position from the front to see that they are well hidden.



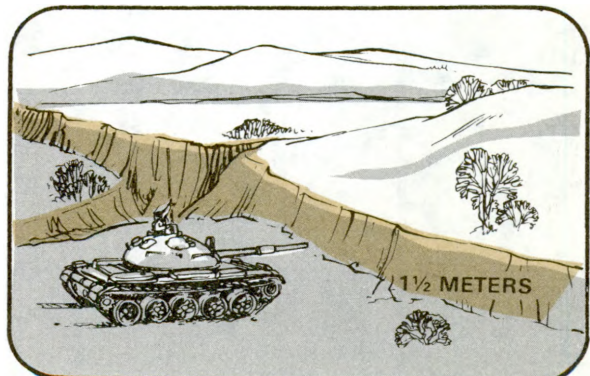
Live foliage conceals well, as it keeps its natural look and does not have to be replaced every few hours. No matter how well covered a position is, if it is not well concealed, it can be seen and hit (**appendix B**).

**Obstacles (natural and manmade).** These stop, delay, or divert movement. Obstacles that can stop tanks and BMPs may not stop enemy troops on foot. Defending troops must reinforce natural obstacles, such as deep creeks, steep ravines, and dense brush, with wire and mines. If wire and mines are deployed in thick woods with large trees, enemy armor and infantry can be slowed or stopped. Troops must cover obstacles with fire. **Obstacles that stop or slow armor include:**

- Slopes over 60 percent.

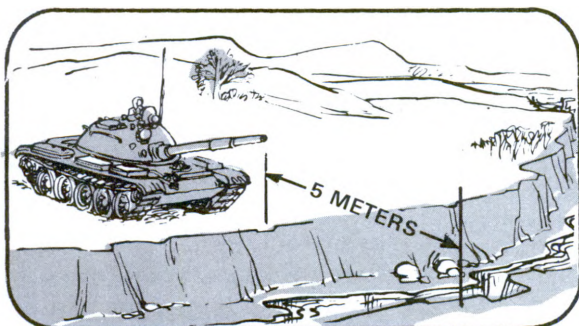


- Steep banks and walls over 1½ meters high.

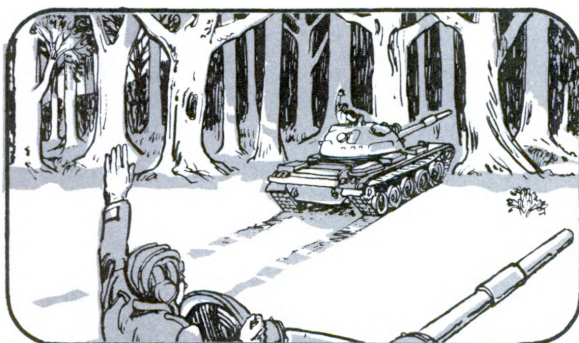




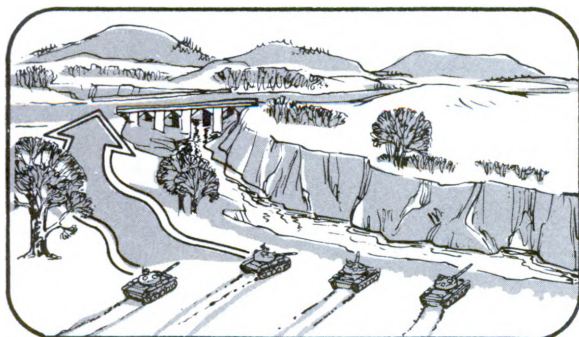
- **Gullies, ravines, and ditches over 5 meters wide.**



- **Trees 45 cm (18 in) thick or larger limit tank movement if the trees are close enough together to keep tanks from going between them. Smaller trees limit BMP movement. If they are close together or on a steep slope, they limit tank movement.**



- **Streams, canals, and marshes stop vehicles and force the attacker to bypass or to build a means to cross.**



**Key terrain.** This is that which, if occupied, gives a marked advantage to the

unit that holds it. Key terrain for a platoon's defense is that which has good cover and concealment, and good observation and fields of fire. Key terrain (**hills, roads, and fords**) forward of the defensive position that may help attackers must be covered by fire. The platoon leader and FO plan indirect fire on key terrain.

**Avenues of approach.** The platoon leader must analyze the avenues of approach into his position available to the enemy in terms of both foot and vehicle movement (**roads, draws, or ridges**). This is the basis for the deployment of men and weapons. He must also look at approaches which may be hard to traverse, but which may be used by the enemy to gain surprise.

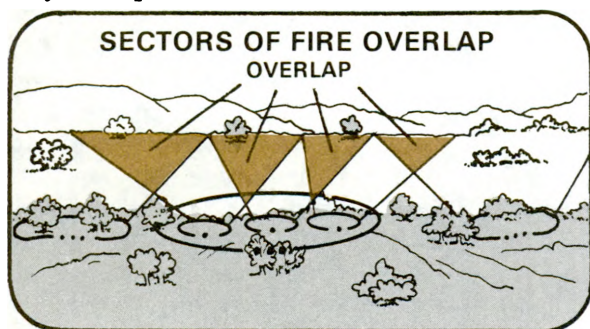
## DEFENSE PLAN

A platoon leader's defense plan includes:

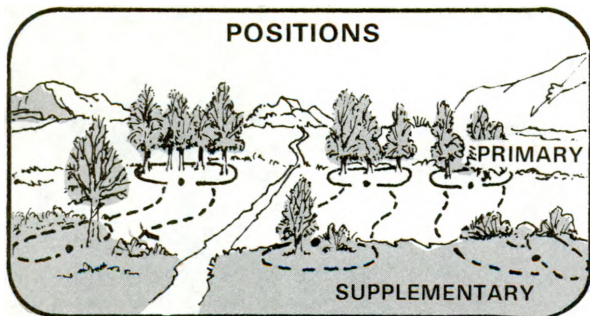
- the deployment of squads,
- the deployment of machineguns and Dragons,
- the use of indirect fire,
- the use of mines and obstacles,
- security measures, and
- the selection and operation of a command post-observation post (CP-OP).

**Deployment of Squads.** Squads are generally deployed abreast so they all can shoot toward the expected direction of attack. On ideal terrain, a squad is capable of defending a front of about 100 meters. About 25 meters is added to the squad front for each machinegun in its sector. The distance between two-man positions should be about 20 meters; between one-man positions, 10 meters.

The platoon leader gives each squad a position to defend and a sector of fire. The center squad's sector of fire overlaps the sectors of fire of the flank squads. Each flank squad's sector of fire overlaps the sector of fire of the center squad and that of an adjacent platoon.



The squads prepare and occupy primary positions. They may prepare supplementary positions. These are prepared the same as the primary positions, but are oriented in a different direction. In time, trenches are dug to provide covered routes to supplementary positions. Squads do not normally have alternate positions, but they do have a portion of the platoon's alternate position.



**Deployment of Machineguns and Dragons.** The platoon leader picks the machinegun and Dragon positions.

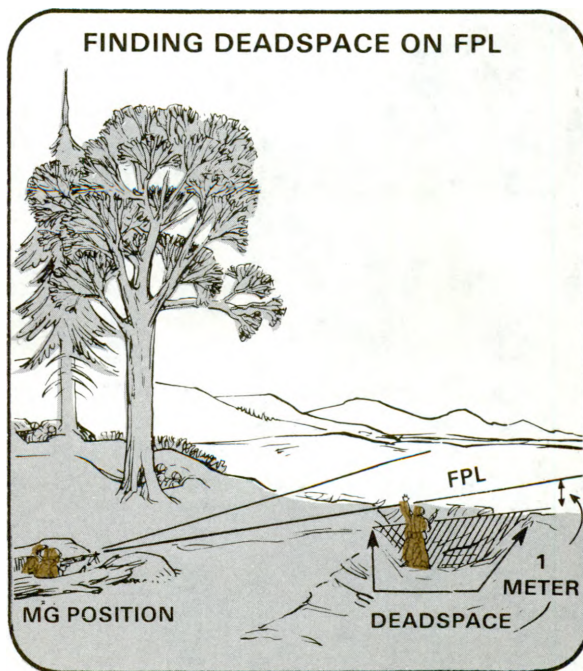
**Machineguns** are the platoon's main weapons for stopping infantry attacks. **Positions and sectors of fire should —**

- cover infantry avenues of approach, and
- shoot the most grazing fire possible across the platoon's front.

Their sectors of fire should overlap each other and those of adjacent platoons.

Each gun is given a primary and secondary sector of fire. A gunner shoots in his secondary sector only if there are no targets in his primary sector, or if ordered to. Each gun's primary sector includes a final protective line (FPL) or a principal direction of fire (PDF).

**Final protective line.** Where terrain allows, the platoon leader assigns a machinegun an FPL. The FPL is a line on which the gun shoots grazing fire across the platoon's front. Grazing fire is no more than 1 meter above the ground (**about hip high**). Fire on a gun's FPL is its final protective fire (FPF). It is fired on command of the platoon leader and in conjunction with the FPF of indirect fire weapons.



Deadspace on the FPL is found by having a man walk the FPL. The gunner watches the man walking down the line and marks spaces which cannot be grazed. The deadspace is covered with obstacles, grenade launcher fire, or mines, and is recorded on the range card.

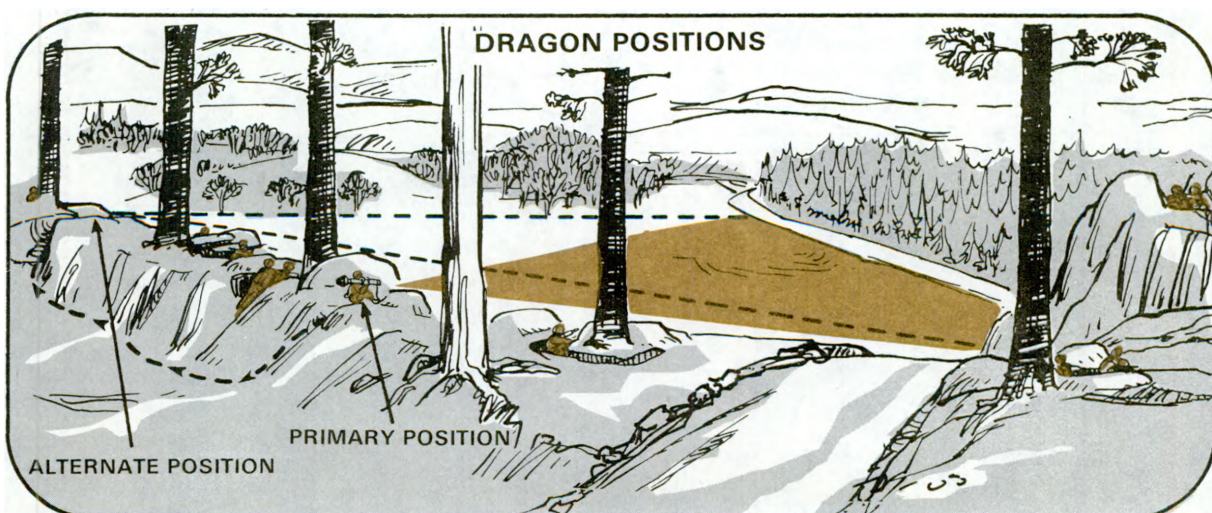
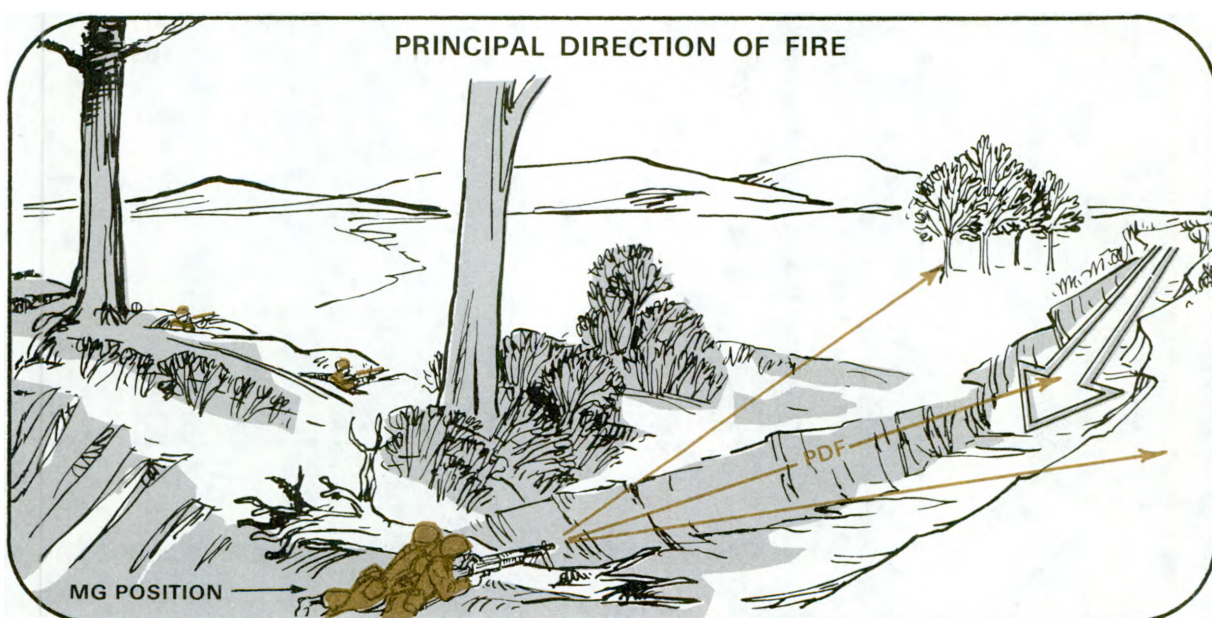


**Principal direction of fire.** When the terrain does not lend itself to an FPL, the platoon leader assigns the machinegun a PDF instead. This should be toward a gully or down a ditch which leads into the position. The gun is positioned to fire directly down this approach rather than across the platoon's front.

Gunners lay the machineguns on their FPL or PDF when not shooting. Once the machineguns are sited, the squad leader

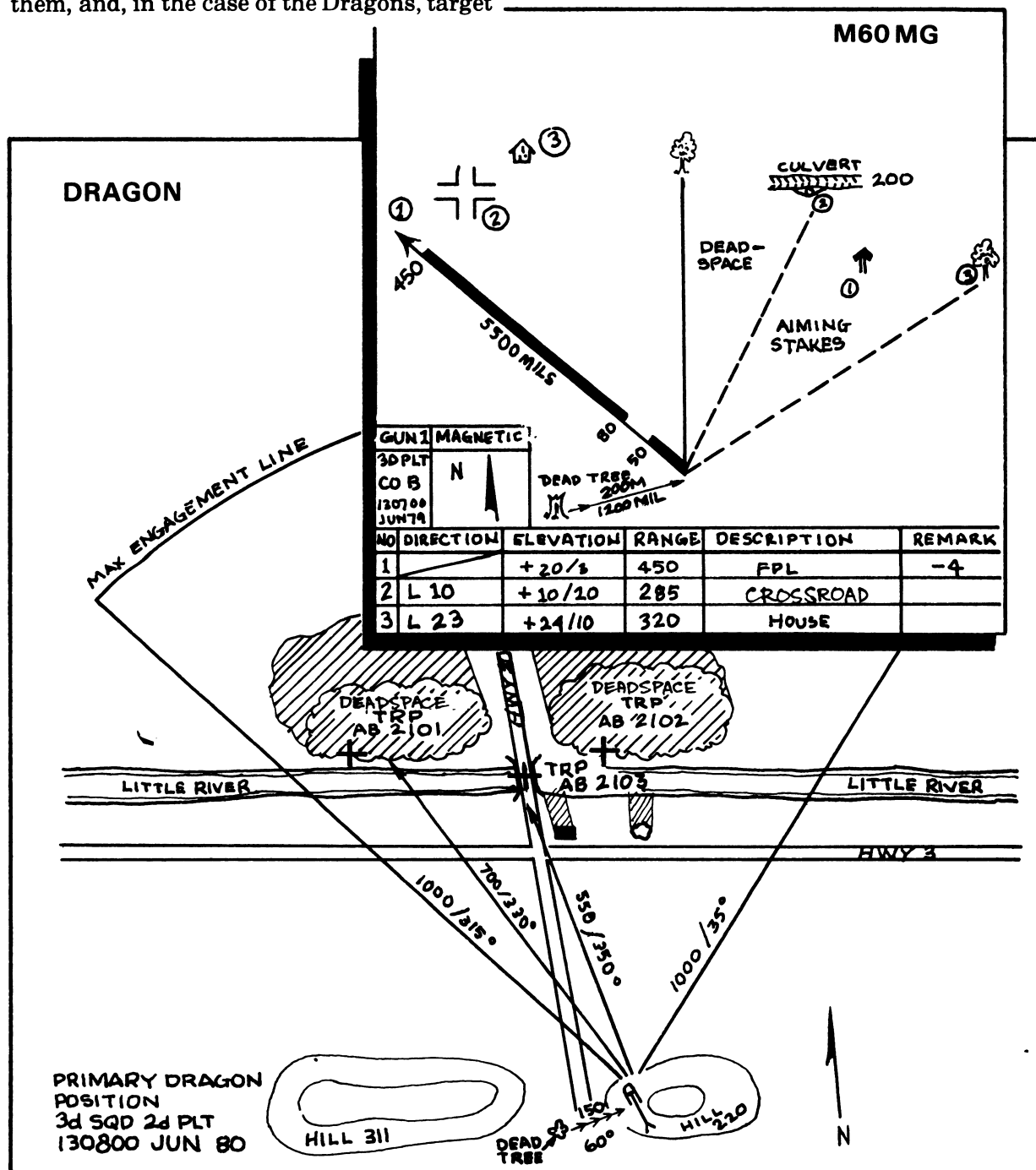
positions riflemen to protect them and to cover areas not covered by their fire.

**Dragons** are the platoon's main anti-armor weapon. They are positioned to cover armor avenues of approach. The platoon leader picks a position and a sector of fire for each Dragon. He may also pick alternate and supplementary positions for them. Each position should allow flank fire and have cover and concealment. Dragons need covered routes between their positions.



**Range Cards.** A range card is a rough sketch of the terrain around a weapon. It is prepared for each machinegun and Dragon. The card shows sectors of fire, FPL or PDF of the machineguns, targets and ranges to them, and, in the case of the Dragons, target

reference points. Gunners prepare at least two copies of a range card. The gunner keeps one copy with the gun and gives one copy to the platoon leader to help him make a platoon sector sketch.





**Use of Indirect Fire.** Most indirect fire planning is done by the company commander and the FIST chief. A copy of the planned **target list** will be given to the platoon leader. The platoon leader and his FO check the **target list** to insure that fire is planned on all enemy avenues of approach and on known or likely enemy positions in the platoon sector of fire. If additional targets are needed, the FO requests them through the FIST chief. The targets that are planned to control and direct the Dragons and any other direct fire weapons are called target reference points (TRPs).

The company commander may assign an FPF to a platoon. An FPF is a prearranged barrier of fire. A platoon leader must plan its location with his FO and the FIST chief. It should cover the most threatening approach. The FPF is planned close to the platoon position, but not so close that it endangers troops. When assigned an FPF, the platoon leader will have the authority to call for it if the company commander does not retain this authority. It should only be fired to stop an enemy assault. On signal, it is fired continuously until it is ordered stopped. All other platoon weapons will fire while the FPF is being fired.

**Use of Mines and Obstacles.** The platoon leader improves his defense by the use of mines, barbed wire, and tripflares. AP mines are emplaced on infantry avenues of approach. Both AT and AP mines are emplaced on armor avenues of approach (appendix F).

**Security Measures.** A platoon leader establishes a **security system** for his platoon to keep the enemy from observing or surprising the platoon. He bases this system on orders received from his company commander, the enemy situation, and the terrain and visibility conditions. The system provides for both active and passive measures.

**Active Security Measures.** A company commander may require a platoon to have a set number of OPs and a set number of men **on security**. If he does not, the platoon leader decides what he needs. There should be at least one OP per platoon. In close terrain, there may be one per squad.

A platoon leader also establishes security within his platoon's position. He requires a set number of men to be on security at all times. The number will vary with the enemy situation, terrain, and visibility. As a guide, at least **one third** of the platoon's troops should be on security at all times.

When an attack is expected, the entire platoon should be on security. This degree of security should not be maintained for extended periods. A platoon leader must keep in mind that his men need rest in order to function in future operations. Security, however, cannot be sacrificed for rest.

A man on security is awake, fully dressed, manning his weapon, observing his primary sector of fire, and listening for enemy activity. In Dragon and machinegun positions, the man on security mans the weapon even if it is not his assigned weapon. A leader must explain to a man on security what to do if he hears or observes enemy activity.

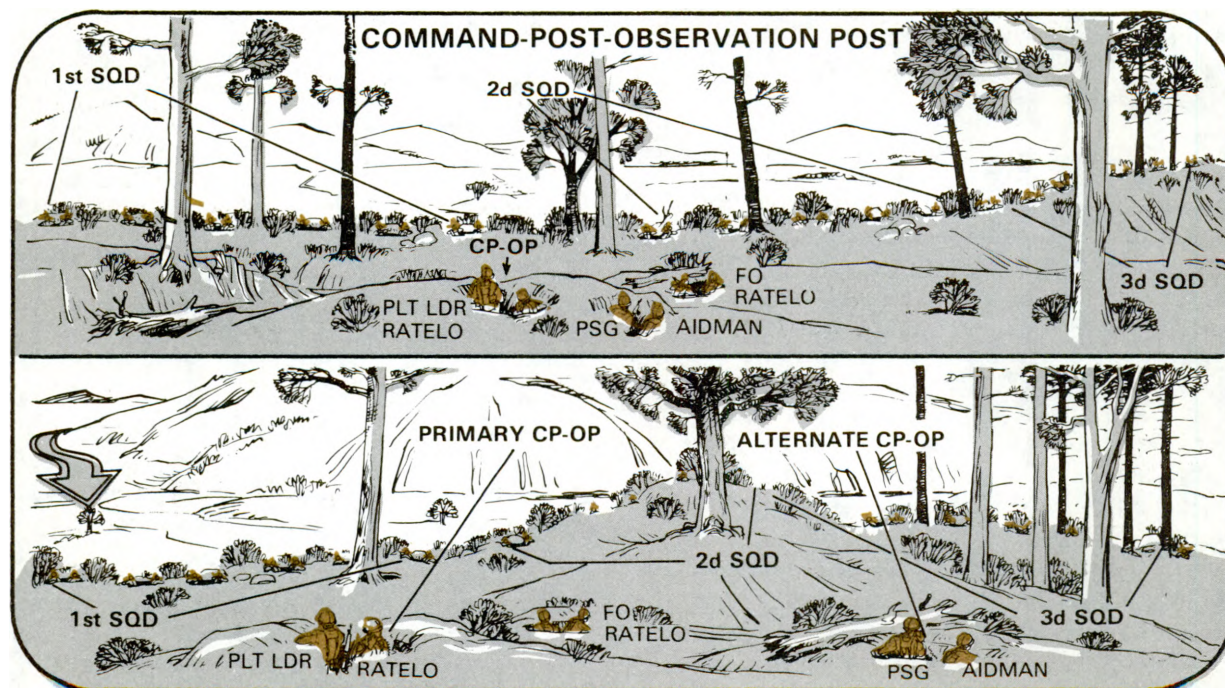
A **stand-to** is held both morning and evening to insure that every man adjusts to the changing light and noise conditions, and is dressed, equipped, and ready for action. The stand-to should start before first light in the morning and continue until after light. It should start before dark in the evening and last until after dark. The starting and ending times should vary to prevent establishing a pattern, but the stand-to must last long enough to accomplish its purpose.

**Passive Security Measures.** Passive security measures include camouflage of positions, control of movement, light and noise discipline, and limiting radio traffic.

**Selection and Operation of a Command Post-Observation Post.** A platoon leader locates his CP-OP in a place from which he can best see and control his platoon. If he cannot see and control all of it from one place, he locates the CP-OP so that he can see and control that part of his platoon covering the most likely enemy approach. An alternate CP-OP is located in a place from which to see and control that part of the platoon that cannot be seen or controlled from the primary CP-OP. The platoon sergeant (PSG) operates the alternate CP-OP.

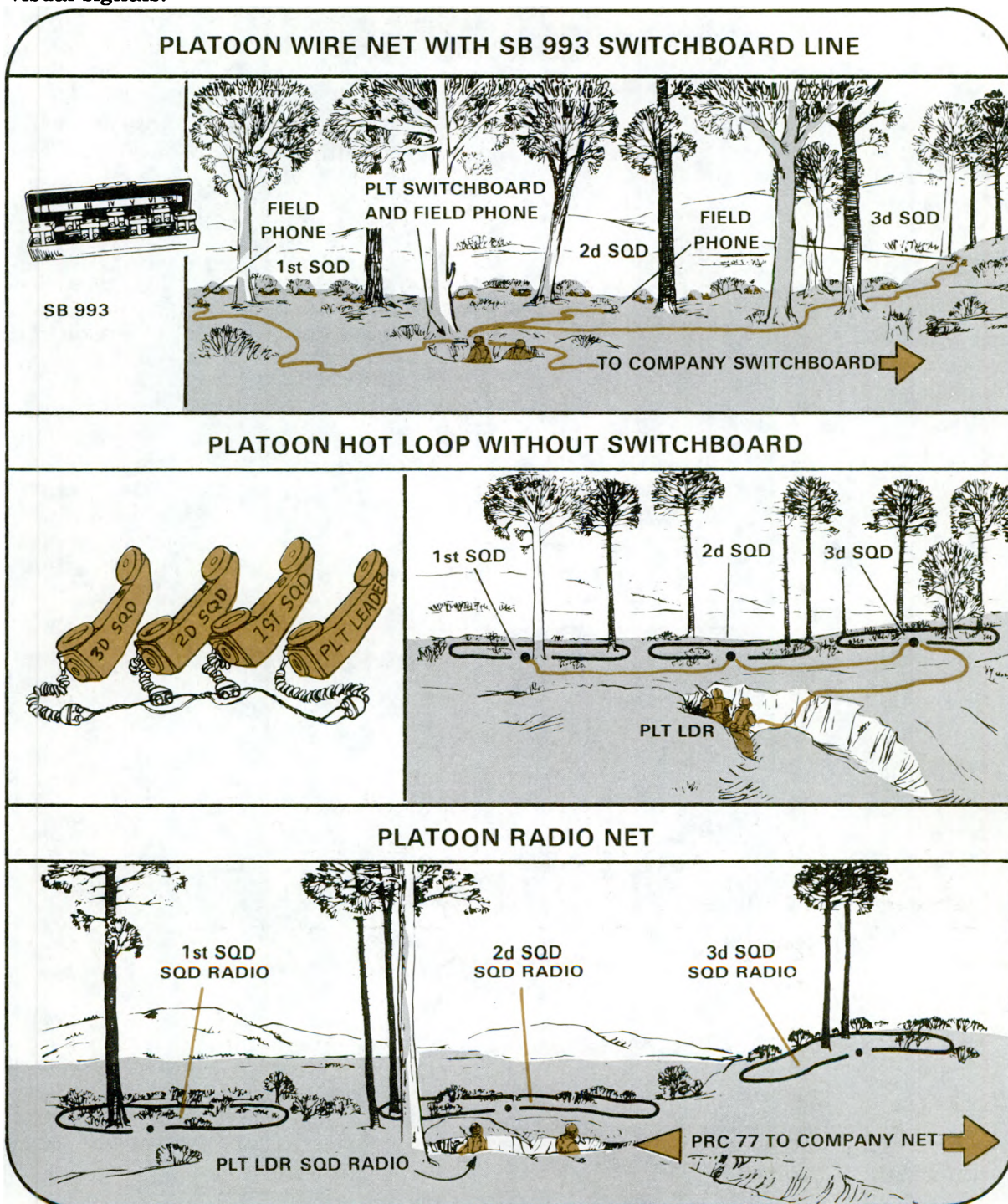
The platoon CP-OP is tied into the company wire net by a TA-312 field phone, and into the company radio net by a PRC-77 radio. The platoon has its own platoon radio and wire nets.

Additional phones may be issued to the platoon for use on OPs. The primary means of communication between the platoon leader and squad leaders is wire. Messengers, visual signals, personal contact, or whistles may be used when more appropriate than phones and radios, or when phones and radios do not work.





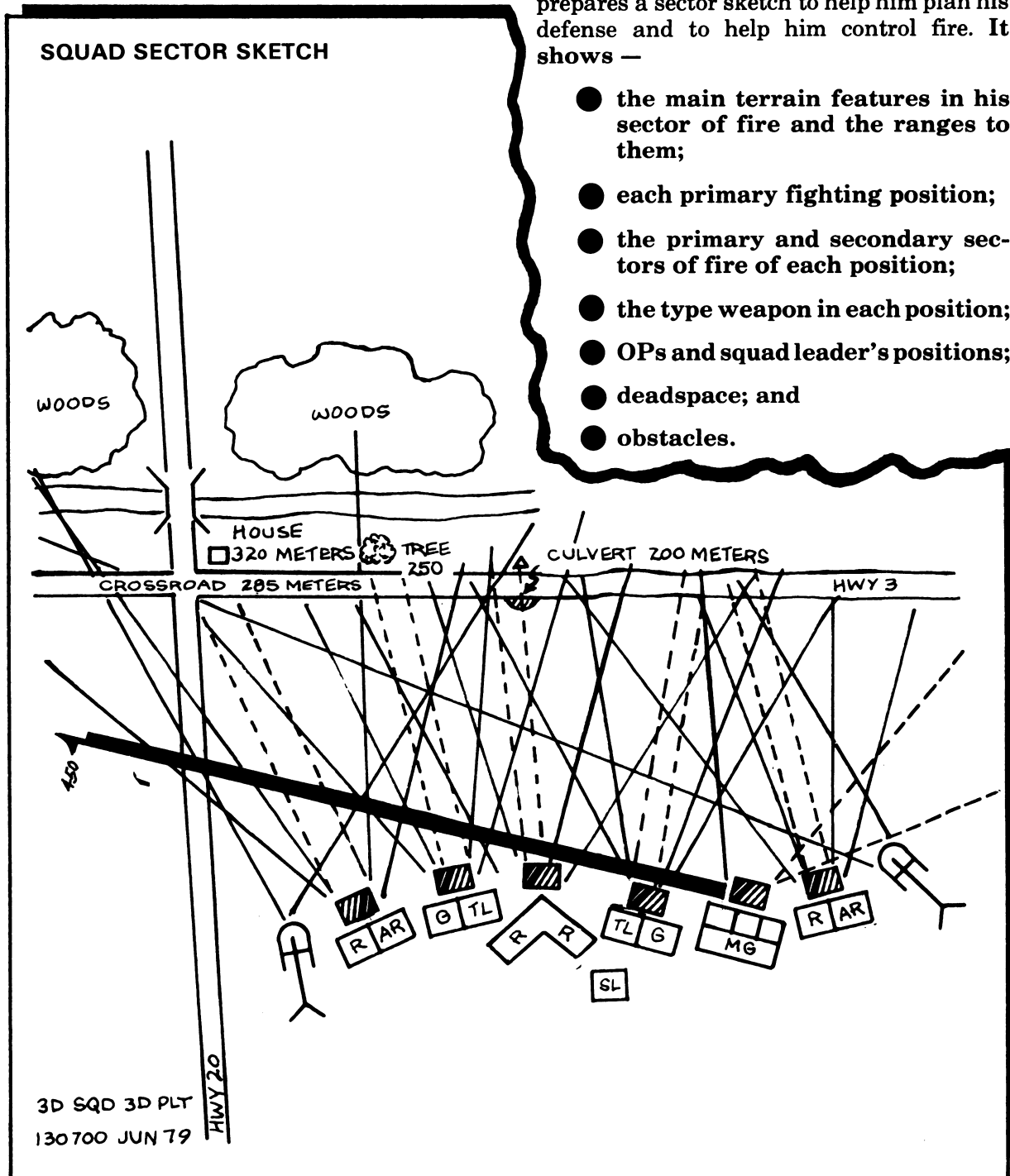
The squad leader communicates with his fire team leaders and his men by personal contact (**oral orders**), or by sound and visual signals.



## SECTOR SKETCHES

**Squad Sector Sketch.** Each squad leader prepares a sector sketch to help him plan his defense and to help him control fire. It shows —

- the main terrain features in his sector of fire and the ranges to them;
- each primary fighting position;
- the primary and secondary sectors of fire of each position;
- the type weapon in each position;
- OPs and squad leader's positions;
- deadspace; and
- obstacles.



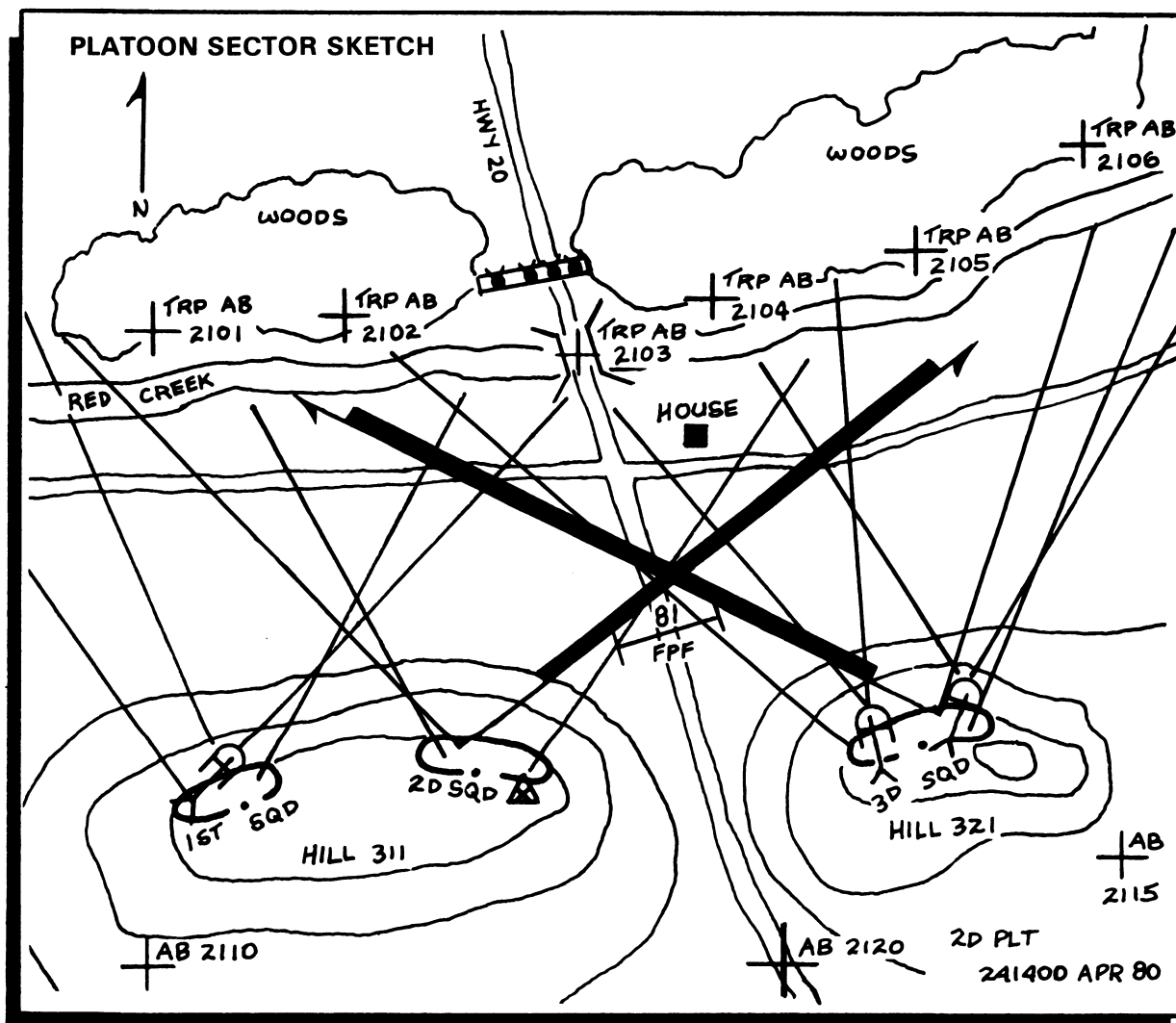


**Platoon Sector Sketch.** The platoon leader checks range cards and squad sector sketches. If he finds gaps or other flaws in his fire plan, he adjusts the weapons or sectors as necessary. If he finds any deadspace, he takes steps to cover it with mines, grenade launcher fire, or indirect fire. He then makes his platoon sector sketch. It shows —

- squad sectors of fire;
- machinegun and Dragon positions and sectors of fire to include FPLs and PDFs of the machineguns and TRPs for the Dragons;

- mines and obstacles;
- indirect fire planned in the platoon's sector of fire (targets and FPF);
- OPs and patrol routes (if any); and
- the platoon CP-OP.

The platoon leader makes his sector sketch in two copies. He keeps one and gives one copy to his commander.



## **COORDINATION BETWEEN ADJACENT PLATOONS/SQUADS**

Coordination is normally conducted from left to right, and from front to rear. Platoon leaders coordinate with adjacent platoons, and squad leaders coordinate with adjacent squads, to see that all positions and all units are mutually supporting. This coordination will also insure that any gaps between units are covered by either fire, observation, patrols, OPs, or sensors. **Information exchanged includes:**

- **Location of primary, alternate, and supplementary positions and sectors of fire of machineguns, Dragons, and subordinate units.**
- **Location of deadspace between units and how to cover it.**
- **Location of OPs.**
- **Location and types of obstacles and how to cover them.**
- **Patrols to be conducted to include their size, type, time of departure and return, and routes.**

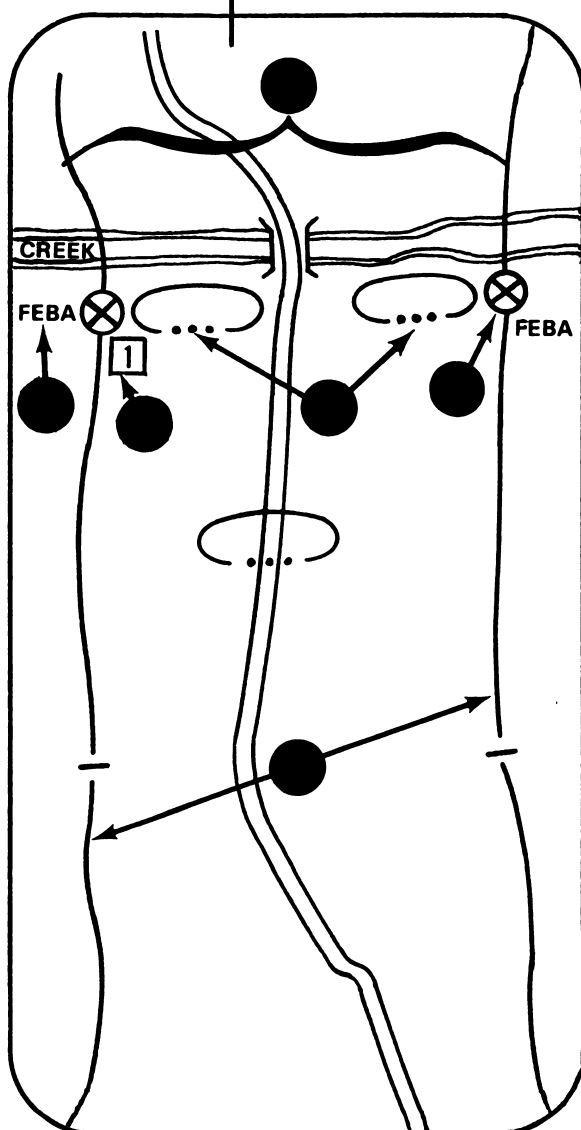


## Section III

# CONTROL MEASURES

### INTRODUCTION

Leaders use graphic control measures together with oral orders to prescribe how the defense is to be conducted.



● **Battle Position.** Position on which a unit defends. A unit assigned a battle position is located within the general outline of the battle position. Some security elements may operate outside the battle position for early warning.

● **Sector.** A defensive area designated by boundaries within which a unit operates and for which it is responsible. Companies may be assigned sectors but platoons normally are given battle positions.

● **Boundaries.** Used to delineate areas of responsibility of companies and higher. Platoons are not normally assigned boundaries. A unit may cross a boundary after coordinating with the adjacent unit. Units may not shoot indirect fire across boundaries without approval of the unit on the other side of the boundary. They may shoot direct fire across boundaries at positively identified enemy targets.

● **Coordinating Point.** Places on boundaries which serve two purposes. They indicate the ground trace of the FEBA, and they are the places where adjacent leaders coordinate and tie in the defense for mutual support.

● **Forward Edge of the Battle Area (FEBA).** The foremost limits of the main battle area along which defending ground combat units (excluding the security force) are deployed.

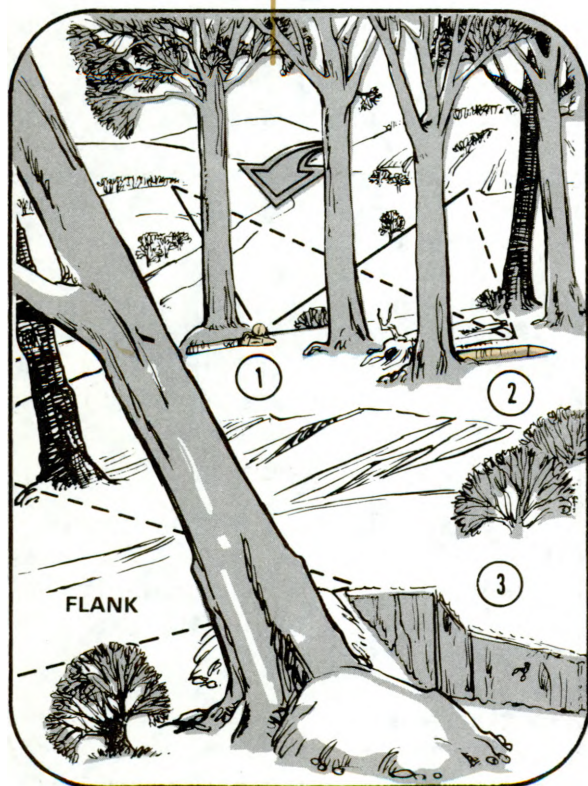
● **Contact Point.** A place on the ground where two or more units must make physical contact.

## Section IV

# DEFENSIVE POSITIONS, FRONT, AND DEPTH

### INTRODUCTION

There are three types of defensive positions: **primary**, **alternate**, and **supplementary**.



①

A **primary position** is one from which a soldier, weapon's crew, or unit can accomplish its mission (observe and cover its sector of fire). It should have observation, cover and concealment, and a good field of fire.

②

An **alternate position** is a position to a flank or slightly to the rear of the primary position. From it the soldier, weapon's crew, or unit must be able to cover the same sector of fire covered from the primary position. It is occupied when the primary position can no longer be held.

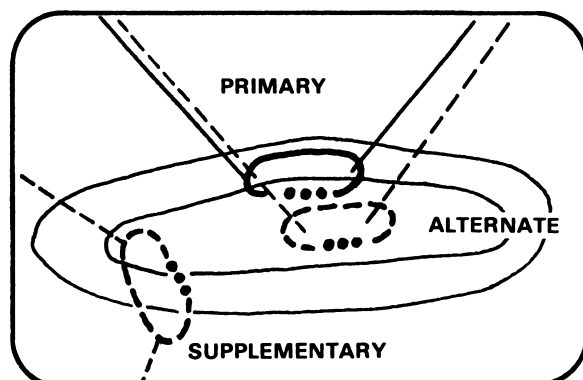
③

A **supplementary position** covers to the flank or rear to defend against enemy attack on an avenue of approach other than that covered by the primary and alternate positions. It is usually close enough to the primary position to have mutual support with other units.



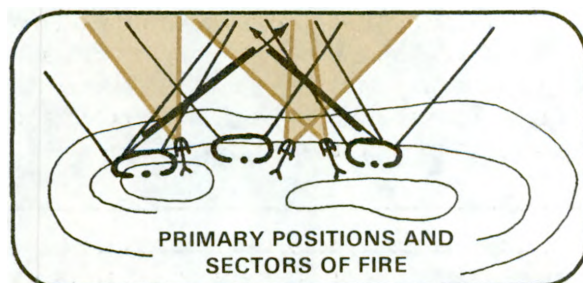
## PLATOON POSITIONS

A company commander assigns each platoon its primary position and sector of fire. He may designate a **platoon** alternate or supplementary position. A platoon normally moves from its primary position on the company commander's order.

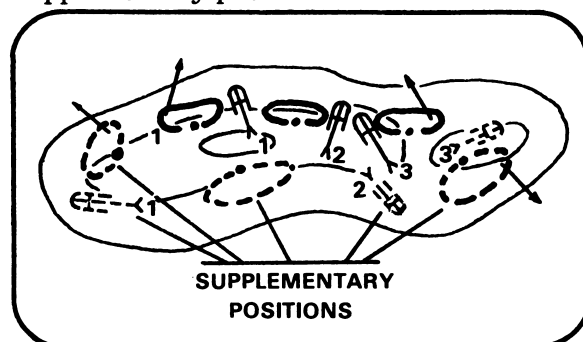


## SQUAD POSITIONS

A platoon leader assigns his machineguns, Dragons, and squads primary positions and sectors of fire.



A platoon leader normally assigns them supplementary positions also.



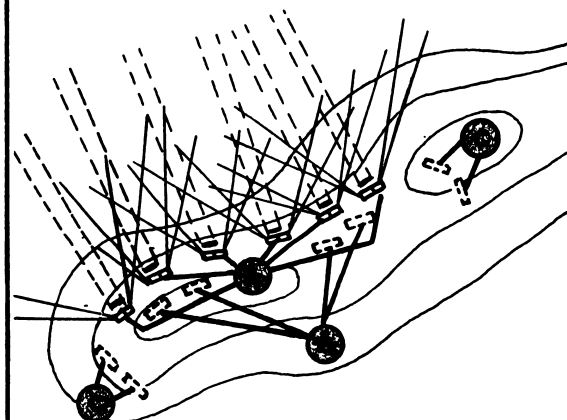
A platoon leader does not normally assign alternate positions to the squads.

A squad moves from its primary position to its alternate or supplementary position on order of the platoon leader.

## FIGHTING POSITIONS

Within his squad position, a squad leader assigns each man a fighting position and sector of fire. He may designate alternate and supplementary fighting positions for some or all of his men within the squad position. He may designate secondary sectors of fire for some or all of his men.

- PRIMARY POSITIONS/SECTOR OF FIRE
- ALTERNATE POSITIONS
- SUPPLEMENTARY POSITIONS



Primary positions are prepared first. When both alternate and supplementary positions have been assigned, the platoon leader decides which of the two to prepare after the primary positions. He bases this on guidance from the commander and on his evaluation of the mission, enemy, terrain and weather, and troops available.

## FRONT

The front of a defensive position is the width of the area a platoon will physically occupy. On ideal terrain, a platoon is capable of defending on a front of up to 400 meters. The front a platoon can defend depends on —

- terrain;

- the platoon's strength; and

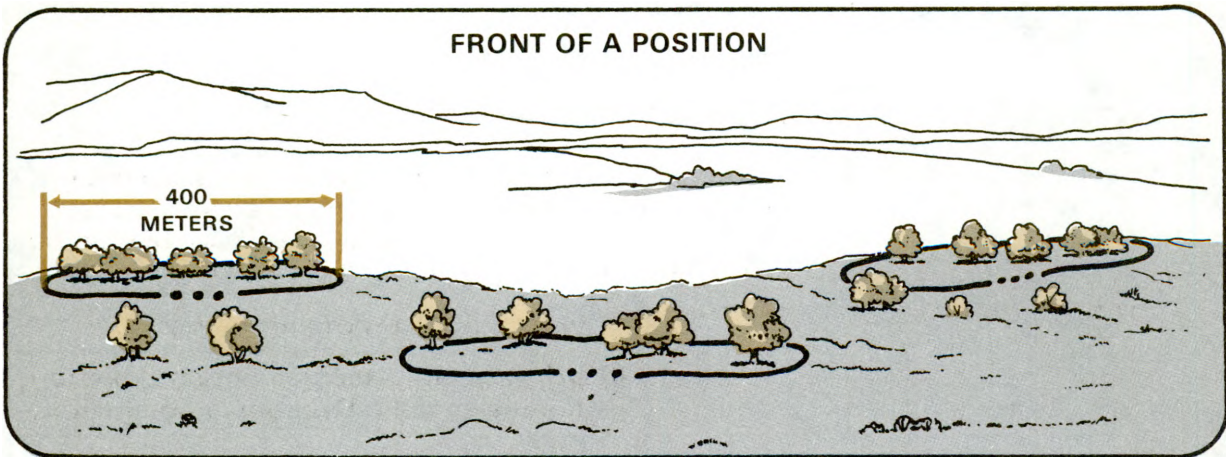
- the enemy's strength and capabilities.

An unoccupied area may exist between two forward platoons of the company. The width of this area depends on observation and fields of fire, terrain, and other factors.

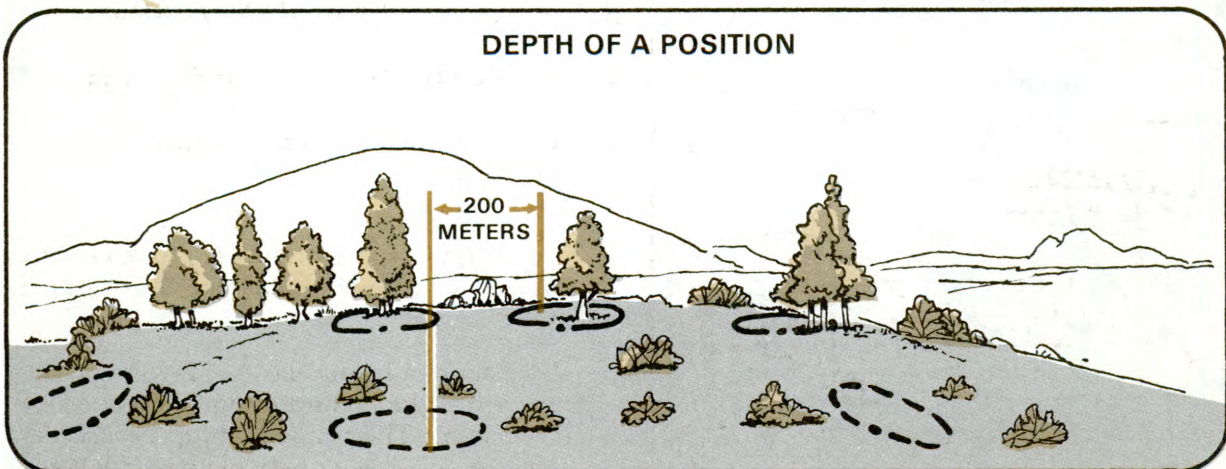
## DEPTH

The depth of a platoon position is the distance from the front of the squad primary positions to the rear of squad supplementary positions. This depth may be up to 200 meters.

FRONT OF A POSITION



DEPTH OF A POSITION





## Section V

# OCCUPATION AND PREPARATION OF A DEFENSIVE POSITION

## INTRODUCTION

Normally, the company commander halts the company short of its defensive position. He takes the platoon leaders forward to reconnoiter platoon positions. During this reconnaissance, the platoon leader looks for —



- enemy avenues of approach;
- primary and supplementary positions for his squads, Dragons, and machine-guns;
- deadspace in front of the position;
- locations for OPs and CP-OP; and
- locations of adjacent platoons and companies.

After this reconnaissance, the company commander turns the platoons over to their leaders.

The platoon leader moves his platoon forward and halts it short of the platoon defensive position. The platoon sets up local security and establishes a hasty perimeter defense.

The platoon leader assembles his squad leaders and takes them forward to reconnoiter their positions. The platoon leader shows the squad leaders —

- their positions and sectors of fire,
- the machinegun and Dragon positions and sectors of fire,
- where to tie in with adjacent squads and platoons,
- the main enemy avenue of approach,
- deadspace and obstacles,
- where to place OPs, and
- the CP-OP.

During this reconnaissance, the squad leader selects positions and sectors of fire for his men. He also develops a plan to accomplish the missions assigned to him.

Once the reconnaissance is completed, the platoon leader and squad leaders move back to the platoon and issue orders for the occupation and preparation of the platoon position.

The platoon then moves forward. The squads are released by the platoon leader so each squad can move to its position. Each squad moves up behind its position and halts. The squad leader immediately posts security forward of the squad position. This is done to prevent being surprised while occupying the position. Next, the squad and team leaders position their men and weapons.

The squads follow the platoon's priority of work when occupying and preparing their positions. The priority of work is given in the platoon order. An example priority of work is:

- Post security.
- Position Dragons and machineguns (by platoon leader), and men (by squad leaders), and assign sectors of fire.
- Clear fields of fire and prepare range cards.
- Prepare fighting positions.
- Lay communications wire.
- Emplace obstacles and mines.
- Improve primary positions and prepare overhead cover.
- Prepare supplementary positions.
- Stockpile ammunition, food, and water.

Usually, two or more of these jobs go on at the same time.

Range cards are prepared and checked. Leaders verify sectors of fire and FPL or PDF. Troops are questioned to see that orders have been disseminated and understood. No unnecessary noise or movement is allowed.

Preparation of the position is continuous. As long as it is occupied, improvements are made to strengthen it.



## RIFLE SQUAD IN DEFENSE

Each squad is given a squad position and a sector of fire by the platoon leader.

The squad leader analyzes the terrain assigned to his squad, moves his squad to its position, and posts local security. He tells his men where to dig fighting positions, shows them their sectors of fire, and supervises their work. He may designate each man's alternate position. (**The construction of fighting positions is discussed in appendix D.**) Sectors of fire between positions must overlap for mutual support.

**Fire Teams** are deployed on line, keeping teams together.

**Automatic Riflemen** may be positioned so their fire supplements the fire of machineguns. If a machinegun malfunctions, the automatic rifleman increases his rate of fire and covers the machinegun's sector.

**Grenadiers** are positioned and given sectors of fire so they can cover deadspace which cannot be hit by other squad weapons.

**Riflemen** are positioned to complete the coverage of their squad's sector and to add to the mutual support. A rifleman may man a machinegun if one of its crew becomes a casualty, or man a Dragon if its gunner becomes a casualty.

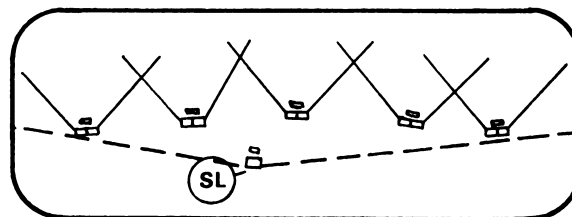
**The Dragon** is positioned by the platoon leader. It is also given a sector of fire to cover armor avenues of approach.

**LAWs** are a squad's close-in antiarmor weapons. Squad leaders should put several LAWs in each fighting position. A sector of fire for a LAW is the same as for the primary weapon in that position. LAW fire at close range (100 meters or less) is used against the sides of vehicles that attack a squad's position.



**Team Leaders** are positioned with an automatic rifleman or a grenadier to help control their fire. Each team leader has his own sector of fire and fights just as his men do. From his position, a team leader should be able to see all of his men's positions and sectors of fire.

**Squad Leader's Position.** A squad leader's position is slightly to the rear and near the center of his squad position. He should be able to see all of his men's positions, communicate with his team leaders, and watch his squad's sector. If the squad's strength is reduced, or if observation is poor, the squad leader mans a forward position.



Before the men start digging, the squad leader checks the fields of fire and sector of fire of each position. He sees that sectors of fire are cleared properly and that they overlap. He also checks to see that all approaches can be covered with fire.

During the preparation of the position, the squad leader must —

- supervise the preparation of fighting positions;
- coordinate with machineguns and Dragons positioned in or near the squad position;
- supervise the preparation of range cards;
- make sure that aiming stakes placed at each position can be seen at night;
- supervise the clearing of fields of fire;
- see that cover, concealment, and camouflage are properly used; and

- prepare a sketch (two copies) of the squad's sector. (He gives one copy to the platoon leader and keeps one for himself.)

The squad leader has his men —

- stay in shadows when feasible;
- use branches and leaves and other natural material to break up the outline of men, weapons, equipment, and positions;
- conceal mess gear, range cards, rations, ammunition containers, and all other light-colored or reflective objects;
- break up solid areas of color and blend them with the surroundings;
- hide or dispose of fresh earth uncovered while digging; and
- use only set paths for movement within and out of the position. If it is necessary to move, troops remove or conceal all signs of the movement.



## Section VI

# CONDUCT OF THE DEFENSE

### INTRODUCTION

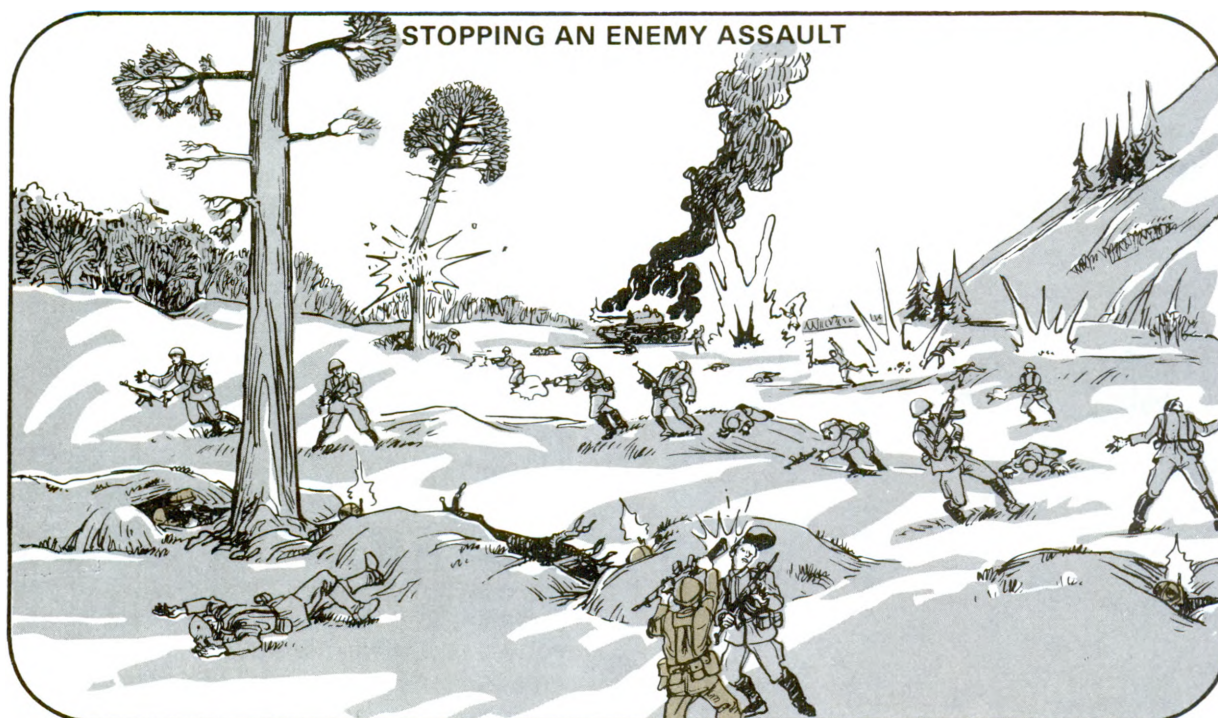
The conduct of a defense by a forward platoon starts when the platoon sees and shoots at the enemy. As the enemy advances, he is brought under an increasing volume of fire. Men in OPs report information about the enemy, and the FO calls for and adjusts indirect fire. When the enemy's advance threatens the OPs, they are withdrawn by the platoon leader.

All leaders and the FO search for indirect fire targets. If no enemy armor appears, Dragons may shoot at other vehicles or crew-served weapons. If no suitable targets appear, Dragon gunners withhold their fire and shoot their rifles. Machinegunners, automatic riflemen, riflemen, and grenadiers shoot at targets in their sectors.



The rate of fire increases as the enemy approaches the platoon position. If tanks and infantry are attacking, fire is placed to force tanks to button up, and to separate foot troops from tanks.

If attacking formations are not broken up forward of the platoon's position, the enemy will assault. The platoon leader then calls for his FPF. Machineguns that have an FPL shoot on that FPL. Those that do not have an FPL shoot along their PDF. Mortars and artillery shoot FPF. All other weapons shoot during the firing of the FPF. They shoot until the assault has been halted. A prearranged signal, such as a flare, is used to stop the firing when the assault has been halted. FPF may be repeated as necessary. As FPF expends a lot of ammunition, it should not be





called for unless necessary to stop an enemy assault from closing on the position. If the enemy gets through the FPF, he is repelled by close combat. If the platoon is threatened from the flanks or rear, the leader may move troops to fight from supplementary positions.

If the enemy is repelled, local security is again sent out and patrols may be sent forward to retain contact. Indirect fire is called on areas where the enemy is likely to regroup. Squads reorganize. The platoon sergeant controls the evacuation of seriously wounded casualties, and the redistribution and resupply of ammunition. Troops make repairs on positions and continue to improve them.

During the conduct of the defense, all leaders keep their next higher commander informed. The platoon leader and squad leaders do not fire except in close combat or when their fire is required. They may fire to point out a target or as a signal to open fire. Their main concern is with directing and controlling the fire of their men and any supporting fire.

During the defense, leaders must:

- Supervise to see that the security system is followed.
- Control and direct fire.
- Call for and adjust supporting fire.

- Move men within the platoon position.
- Provide more ammunition and equipment as needed.
- Reorganize and reestablish the defense during lulls in combat.

## CONDUCT OF THE DEFENSE WHEN VISIBILITY IS POOR

When visibility is poor, patrols, OPs, and night vision devices help detect the advance of the enemy.

Local security elements report the enemy's advance and call for illumination and supporting fire. As in a daylight defense, troops in OPs are withdrawn before they become engaged in close combat.

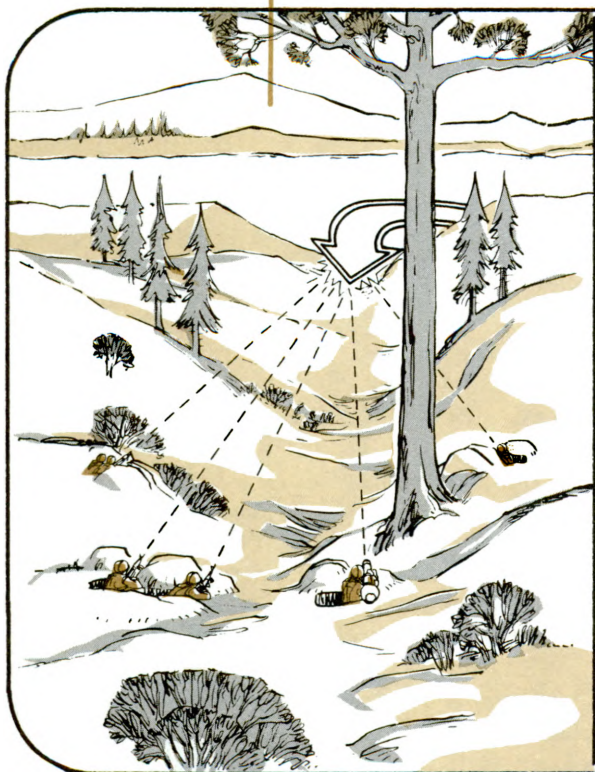
As the enemy approaches, illumination and night vision devices are used to detect him. Tripflares give warning and some illumination. When surprise is desired, troops fire on order only. As a rule, troops do not shoot until targets are visible. Strict fire control is needed to prevent the disclosure of fighting positions. Machineguns and Dragons use night vision devices and range cards. All troops use aiming stakes. If the company commander has used mortars or artillery to provide illumination, the platoon can add to this as required with grenade launchers using illuminating rounds.

## Section VII

# RESERVE OF A FORWARD RIFLE COMPANY

## INTRODUCTION

**Positions and Missions.** If a forward company has a reserve, it may be positioned in the rear of the forward platoons. The reserve may be a platoon, one or two squads, or formed from available personnel in the company headquarters or weapons platoon. It adds depth to the company's defense. The commander gives the reserve a primary position and one or more supplementary positions. It may move from one position to another as required. The reserve may have one or more of the following missions, **generally assigned in a priority:**



- Block penetrations.
- Secure the company flanks and rear.
- Support a forward platoon by fire.
- Man OPs and conduct security patrols.
- Prepare to counterattack.
- Evacuate prisoners.



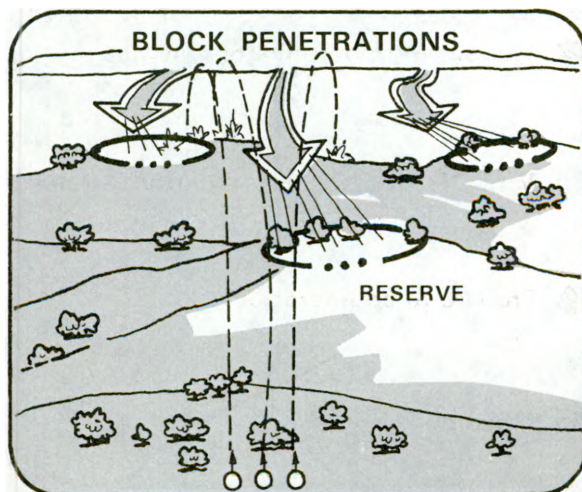
**Organization of the Position.** The organization of a reserve position is about the same as that of a forward platoon or squad. As it has a greater area of responsibility, and because it will have more avenues of approach to cover, it normally has one machinegun on each flank. The machineguns do not have FPLs. The reserve normally plans no indirect FPF. Except for that, its fire plan is the same as that of a forward platoon or squad.

The reserve CP-OP is where its leader can best see his area of responsibility and control his fire. It should have observation of the forward platoons' positions and the company flanks and rear.

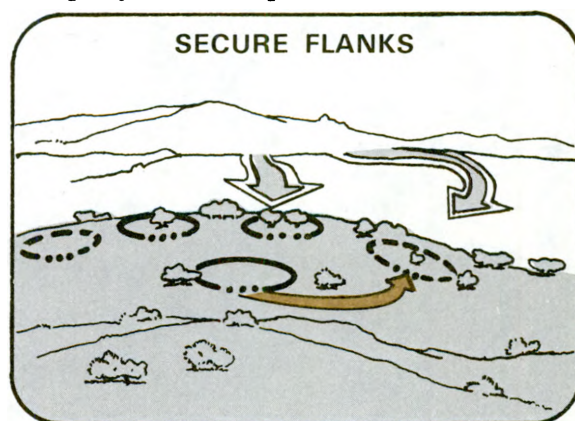
The reserve posts its local security just like a forward platoon or squad.

## MISSIONS OF THE RESERVE

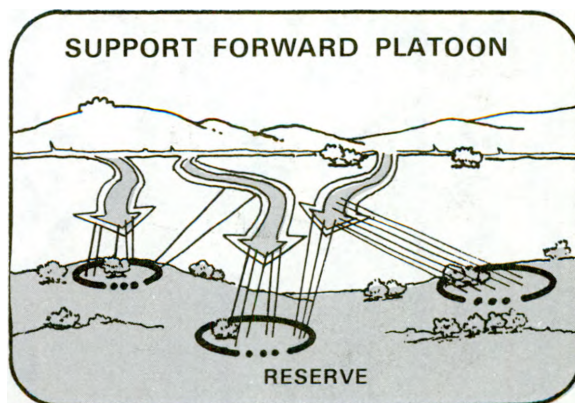
**Block Penetrations.** The reserve blocks an enemy penetration by fire. The forward platoons help by shooting across the neck and flanks of the penetration. They continue to hold their flanks. When the reserve is blocking a penetration, a counterattack to eject the penetrating force is usually made by the battalion reserve. Indirect fire helps to contain and reduce the penetration.



**Secure the Company Flanks and Rear.** The reserve prepares supplementary positions to protect the company flanks and rear. The company commander tells it which approaches to block. To protect a flank, the reserve's position must tie in with the supplementary positions of the forward platoons and with adjacent units. The reserve may have to take a position to protect a flank when the sector of an adjacent company has been penetrated.

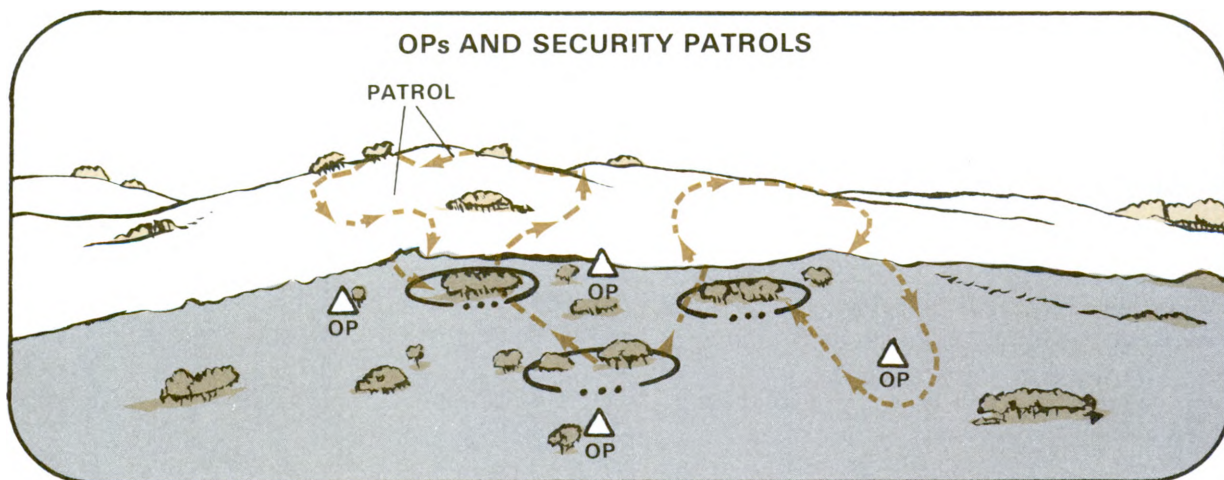


**Support a Forward Platoon by Fire.** For this mission, the reserve is positioned where it can shoot into unoccupied areas between forward platoons and on their flanks and rear. The reserve's position must be close enough to the forward platoon's primary position so that it can hit enemy troops that penetrate that position. The reserve is normally kept intact and is moved by the company commander as the situation dictates.



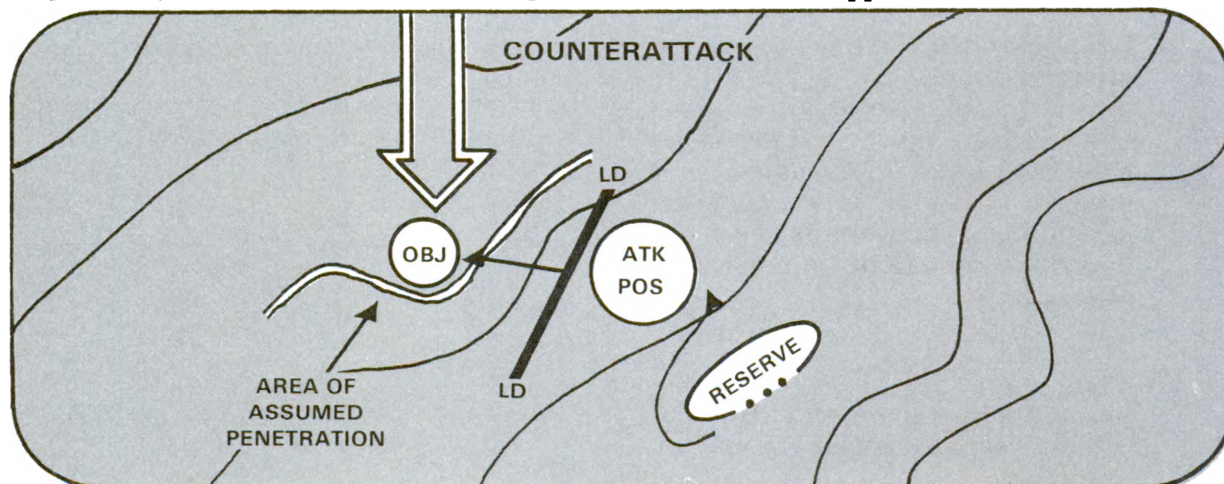
**OPs and Security Patrols.** The commander prescribes what security and surveillance responsibilities the reserve will have. These may require the use of guards, OPs, and security patrols. The reserve may have NBC detection devices, night vision devices, tripflares, antipersonnel mines, and noise-making devices for early warning. The reserve may post guards for the company CP,

mortar squads, and crews of supporting weapons in the company sector. OPs watch unoccupied parts of the company sector. They watch avenues of approach and key terrain. Security patrols reconnoiter those areas which cannot be seen by other means and keep contact with adjacent units. They can also be a means of communications between OPs.



**Counterattack.** The objective of a counterattack is normally to destroy the enemy in a penetration or eject him from the penetration. The reserve leader plans a counterattack on one or more likely penetrations. Each is a complete attack plan. Each has a tentative objective and a direction of attack. A plan may have an LD and an attack posi-

tion. With time, each counterattack plan is rehearsed. At least, a dry run or walk-through of the attack is done. This helps inform the forward platoons of the plans. The reserve conducts its other tasks until the counterattack order is given. It must then attack with speed and fury. It must be given massed fire support.





## PLANNING

The planning by the leader of the reserve is much the same as that by the forward platoon or squad, with these exceptions:

- Because of the variety of missions and positions which the reserve may have, reconnaissance and planning are more extensive.
- Coordination must be made with all nearby units.
- The leader must know the defensive plans of forward platoons and adjacent companies.

## PREPARATION AND CONDUCT OF THE DEFENSE BY THE RESERVE

The preparation of the reserve's positions is much the same as that of a forward platoon or squad, with these exceptions:

- Because of the number of supplementary positions, the reserve may work on two or more positions at the same time. The positions are continually improved. The reserve occupies its primary position and is ready to move to supplementary positions at any time.
- The leader must be able to assemble his troops quickly from widely separated positions at any time.

## Section VIII

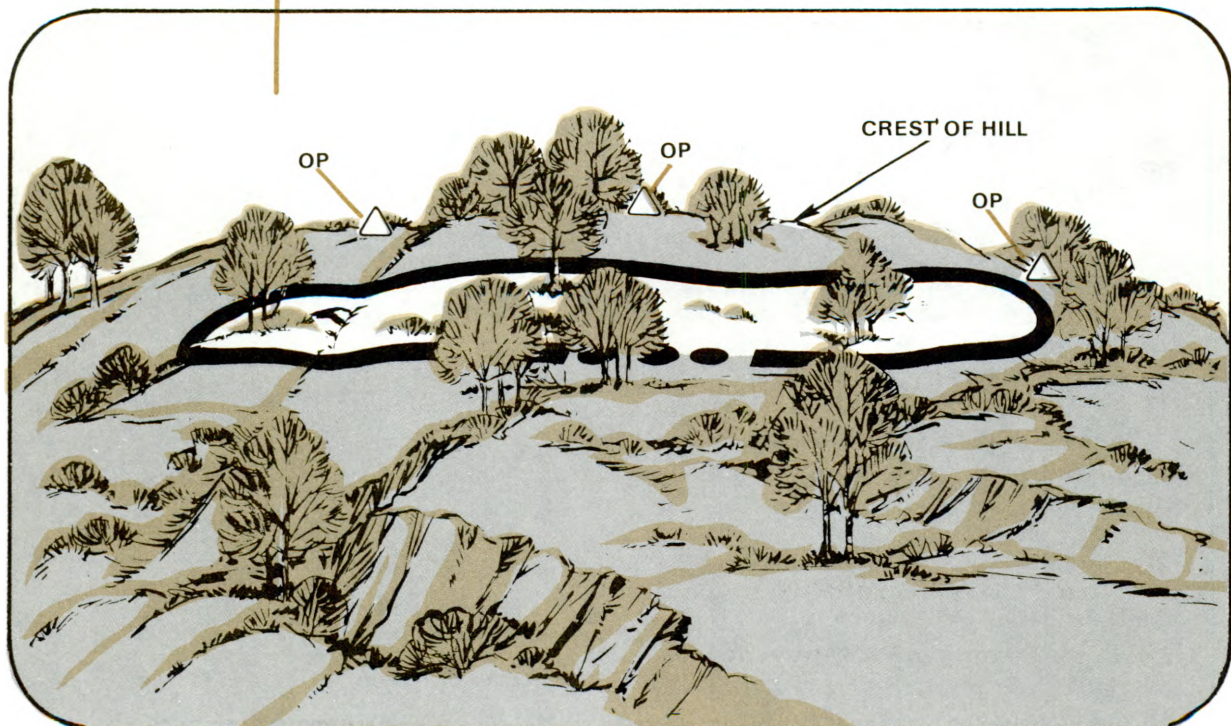
# OTHER POSITIONING TECHNIQUES

### INTRODUCTION

A defending platoon may have to deviate from the defense pattern previously described. Such deviations may include defending on a reverse slope, in a perimeter, or as a roadblock.

### DEFENSE ON A REVERSE SLOPE

An infantry company may organize a defense on the reverse slope of a hill. This defense is on that part of a hill or ridge which is masked by the crest from enemy direct fire and ground observation. The crest must be controlled either by fire or by physical occupation.





A platoon may defend from a **reverse slope position** when —

- the forward slope cannot be occupied because of enemy fire,
- the terrain on the reverse slope affords better fields of fire than the forward slope,
- possession of the forward slope is not essential for observation, or
- defense from the reverse slope will deceive and surprise the enemy.

The advantages of defending from a reverse slope are:

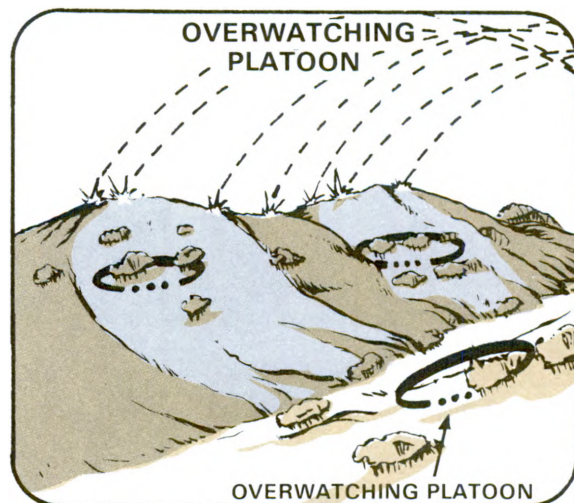
- Enemy ground observation of the position is masked.
- There is more freedom of movement on the position due to the enemy's lack of ground observation.
- Enemy direct fire weapons cannot hit the position.
- Enemy indirect fire is less effective because of lack of observation.
- The defender gains surprise.

Disadvantages of defending from a reverse slope are:

- Fields of fire and observation for direct fire are probably short.
- The enemy may seize the high ground in an attack and his assault will then be downhill.

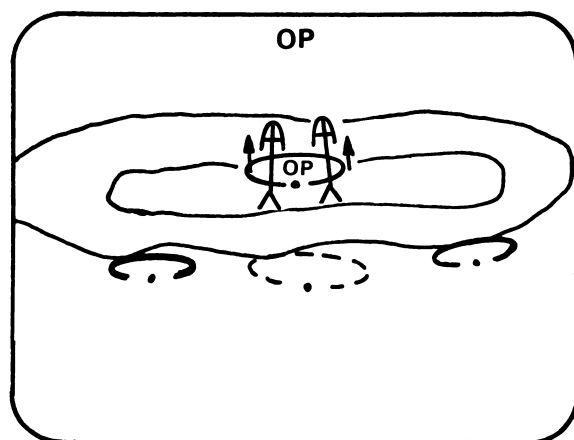
The forward platoons are from 200 to 500 meters from the crest of the hill where they can have the best fields of fire and still have the advantages of the reverse slope.

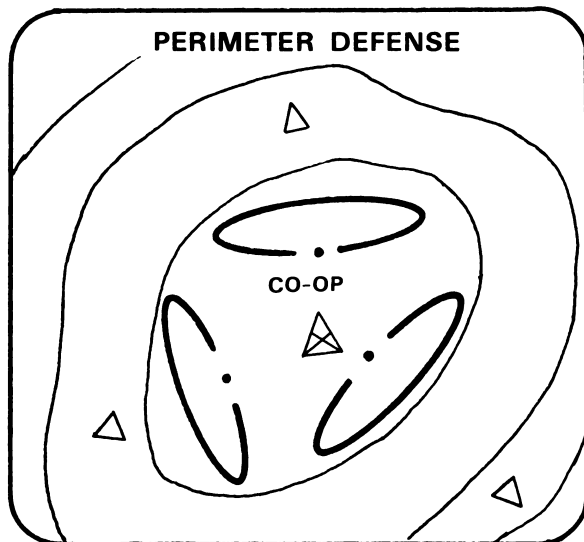
If it can be in supporting distance, an overwatching platoon is positioned on the forward slope of the next high ground to the rear.



Indirect FPFs are planned on or short of the crest of the hill to deny that area to the enemy and to help break up his assault as he crosses the crest.

Leaders position OPs on, or just forward of, the crest to watch the whole platoon sector of fire. The OPs may vary in size from two men to a squad reinforced with machineguns and antitank weapons.





Leaders position machineguns and automatic rifles where they can shoot the most effective surprise fire on the enemy as he crosses the crest. They also plan machinegun FPLs as in a defense of a forward slope.

The conduct of the defense from a reverse slope is generally the same as from a forward slope. However, the OPs forward of the position not only give warning of the enemy's advance but delay, deceive, and disorganize him by fire. They withdraw before they are closely engaged with the enemy. Machineguns with the OPs withdraw first so they can occupy their primary fighting positions before the enemy reaches the crest. As the OPs withdraw, indirect fire hits on the forward slope and on the crest of the hill to slow the advance of the enemy. Troops in primary positions hold their fire until the enemy crosses the crest. As the enemy moves over the crest of the hill, he is hit by all available fire.

## PERIMETER DEFENSE

Preparing a perimeter defense is the same as discussed in section III, with these exceptions:

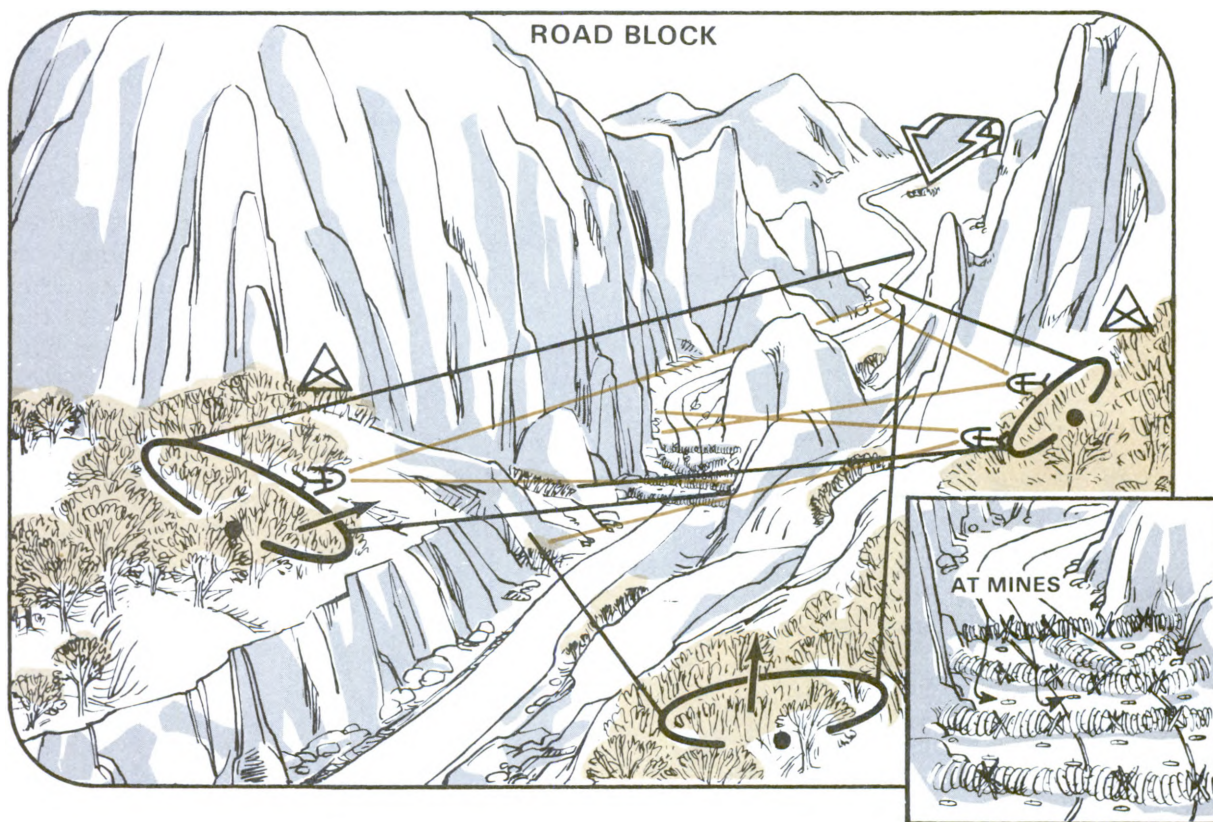
- The trace of the front is circular rather than linear.
- Unoccupied areas between squads are generally smaller.
- The flanks of the squads are bent back to conform to the plan.



## DEFENSE OF A ROADBLOCK

A roadblock stops or slows enemy movement beyond a point on a road. It usually incorporates an obstacle that is covered by fire. Roadblocks may be employed to the front, flank, and rear of friendly units. They are employed most in delay and withdrawal operations and against enemy exploitation.

The defensive position should allow fields of fire which cover the approaches to the obstacle to keep it from being breached. The friendly defensive position should be inaccessible to the attacker.



### CHARACTERISTICS OF A ROADBLOCK

■ **Blocks an avenue of approach.** A roadblock should be difficult to bypass.

■ **Takes advantage of natural obstacles.** A roadblock is best positioned where movement to its flanks or around it is restricted by natural obstacles, for example, cliffs, swamps, rivers, towns. Manmade obstacles can be built to tie in with and reinforce natural obstacles.

■ **Gains surprise.** To gain surprise, an obstacle can be placed near a sharp bend in the road, just over the crest of a hill, or where a road passes through a heavily wooded area. Troops and manmade obstacles must remain concealed until it is too late for the advancing enemy to react well. Mines, demolitions, and cratering charges are effective, easily concealed obstacles. They can be quickly armed or disarmed as the situation changes.

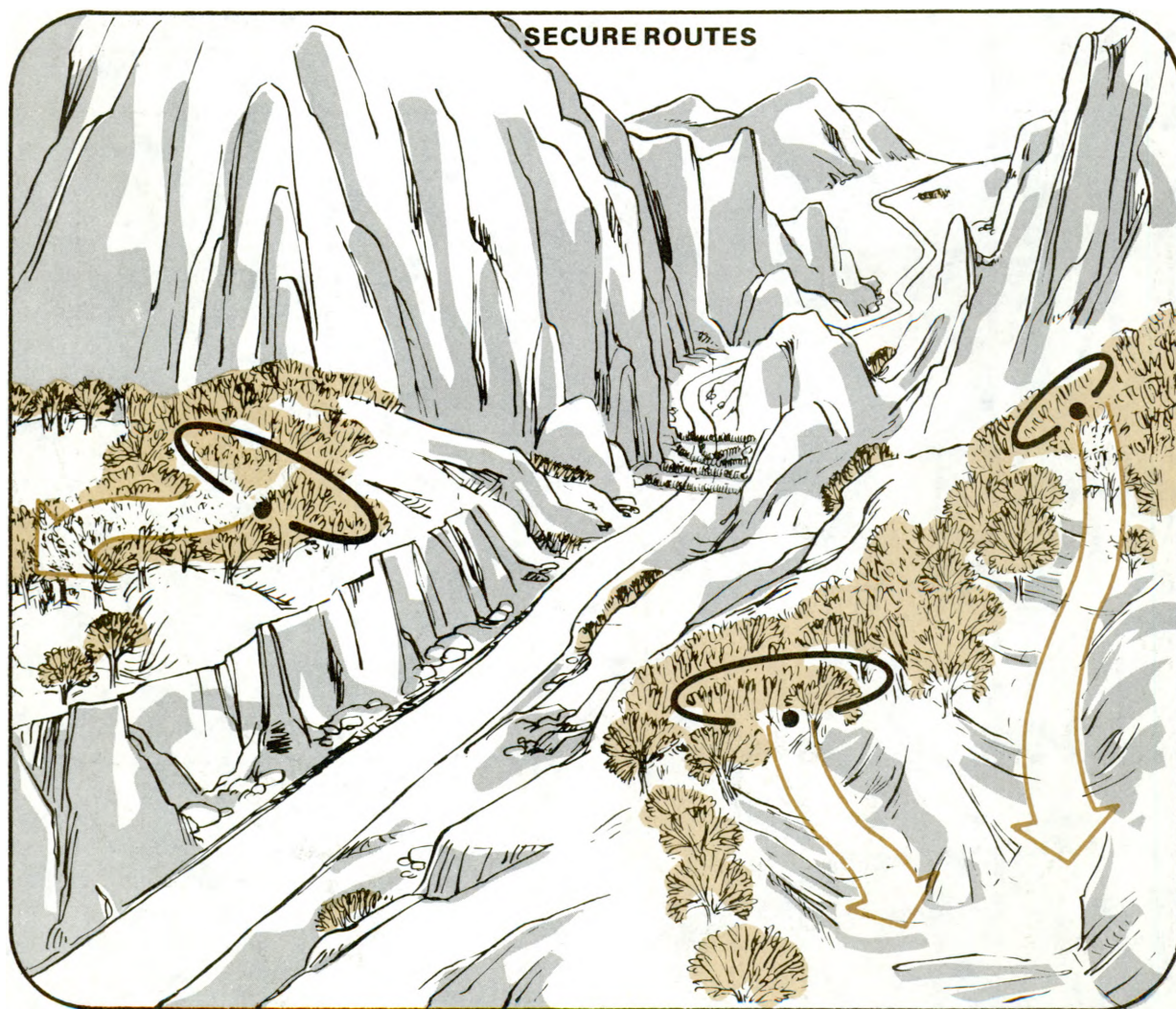


■ **Secure routes to the rear.** Secure routes ease resupply and withdrawal. Platoon leaders must insure that withdrawal routes remain secure in order to permit resupply and rapid withdrawal.

**Planning the Roadblock.** On receipt of the mission, leaders follow the troop leading procedure described in chapter 2.

The platoon leader plans for —

- the positioning of squads and weapons where they can cover the obstacle and surrounding area in order to prevent the enemy from breaching or going around the obstacle;
- the positioning of manmade obstacles to reinforce the natural obstacles;





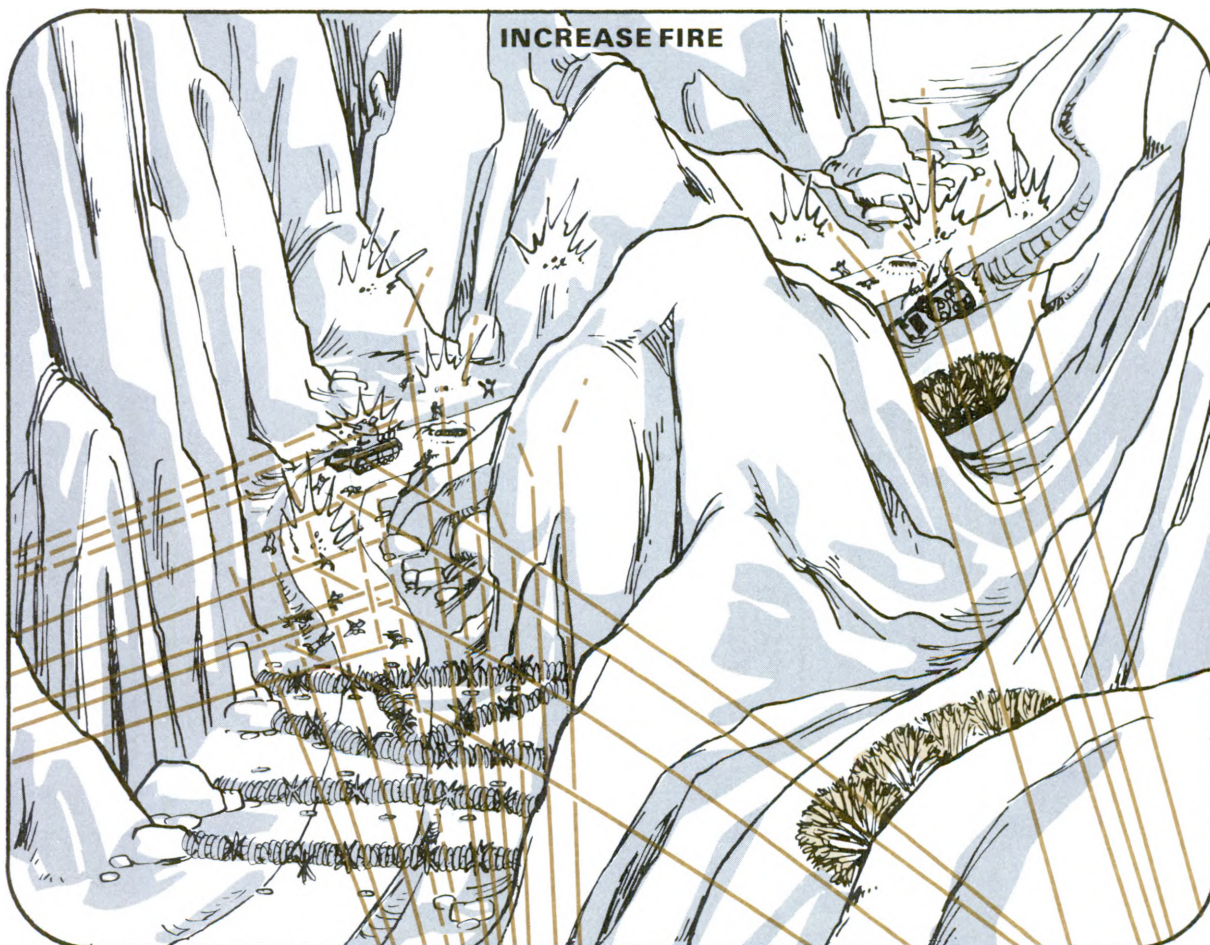
## CONDUCT OF THE DEFENSE OF A ROADBLOCK

- fire to support the defense (this includes planning for smoke to conceal the withdrawal);
- the disengagement and withdrawal of the platoon (successive rearward positions are planned to allow rearward fire and maneuver or bounding overwatch); and
- all other aspects of a regular defense.

■ As the enemy nears the roadblock, OPs warn the leader. On order, the OPs withdraw on planned routes to their defensive positions.

■ To achieve surprise, the defending force does not prematurely disclose its position. It waits for the enemy to reach the obstacle before it shoots. At that time, it shoots direct and indirect fire on the enemy and the approaches to the obstacle.

■ As the enemy deploys, the rate of direct and indirect fire is increased to break up his formations.



## Section IX

# WITHDRAWAL

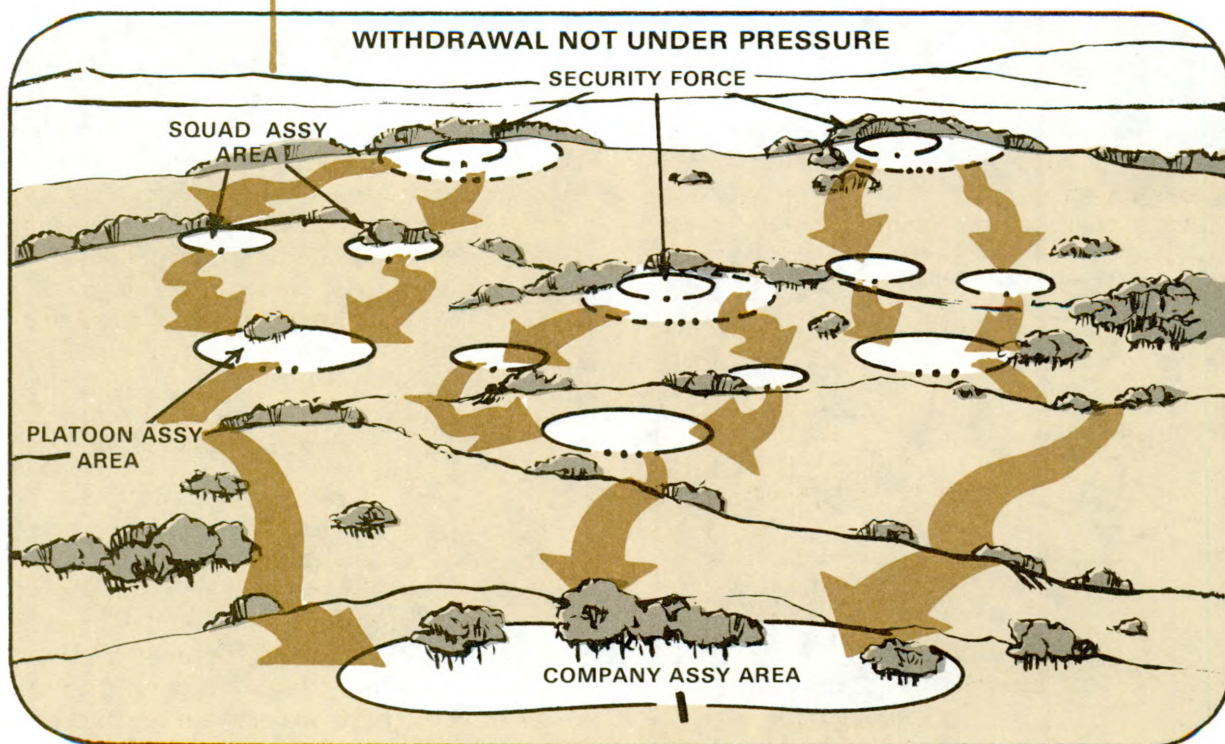
### INTRODUCTION

In a withdrawal, a company disengages from the enemy and repositions for some other mission. That mission may be to delay the enemy, to defend another position, or to attack some place else.

● There are two types of withdrawals: **not under pressure** and **under pressure**.

■ In a **withdrawal not under pressure**, a company disengages and moves to its rear while the enemy is not attacking. Platoons must be ready to fight their way to the rear or to resume the defense should the enemy attack.

■ In a **withdrawal under pressure**, a company disengages and moves to its rear while the enemy is attacking. Platoons disengage by fighting their way to the rear.





## WITHDRAWAL NOT UNDER PRESSURE

A withdrawal not under pressure is conducted with speed, secrecy, and deception. It is best done at night or during other periods of reduced visibility (**fog, snow, rain, or smoke**). Usually, all platoons move to the rear at the same time. The company leaves a **security force**, formerly called a **detachment left in contact (DLIC)**, to cover the withdrawal by deception and by fire and maneuver when required.

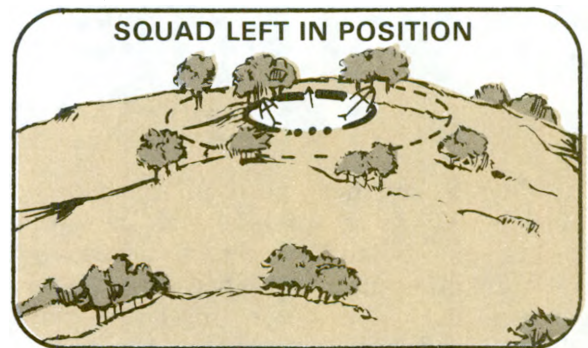
**Security Force.** The size, composition, and mission of the company security force are directed by the company commander. He will also designate the security force commander, normally the company executive officer or a platoon leader.

The company commander may decide to leave one platoon as the company security force or have each platoon leave a platoon security force. The three platoon security forces then make up the company security force.

If a platoon is selected as the company security force, the platoon leader must reposition squads and weapons to cover the company's withdrawal. This normally includes repositioning a squad in each of the other platoon positions to cover the most

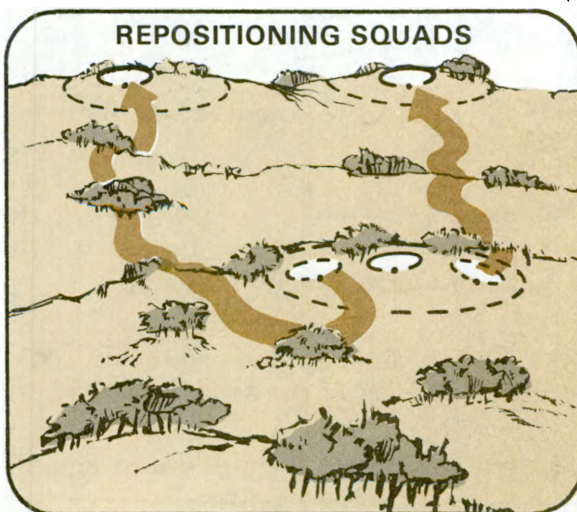
dangerous avenue of approach into that position, and repositioning weapons to cover the most dangerous avenues of approach into the company's position.

If each platoon is to have a security force, it normally consists of one squad, one machinegun, and two Dragons. The platoon security force leader is normally the squad leader of the squad left in position. When the withdrawal starts, each platoon security force comes under the control of the company security force commander.



The security force strives to conceal the withdrawal and deceive the enemy by continuing the normal operating patterns of the company. If the enemy attacks during the withdrawal, the security force covers the withdrawal by fire. Once the company is at its next position or a designated distance from the old positions, the company security force commander will order withdrawal of the security force. These orders should be given by telephone or codeword over the radio. The security force withdraws using the same basic plan as the company main body did. If under attack, the security force may have to conduct fire and maneuver to the rear until contact is broken and then assemble to move to the rear.

**Quartering Party.** The company commander may send a quartering party to the next position before the withdrawal starts. This party is normally made up of company headquarters troops, and representatives from each platoon. Platoon representatives are usually the platoon sergeant and a guide for each squad.



When at the next position, the platoon representatives reconnoiter and, as appropriate, pick positions, sectors, routes, and OPs for the platoon. When the platoon arrives, the squad guides meet and guide their squads into position. The platoon sergeant meets and briefs the platoon leader on the position and any other important information.

**Planning.** The company commander normally tells his platoon leaders —

- when the withdrawal will start;
- where the company assembly area is and what each platoon is to do upon arrival in it (when the company is assembled, it moves under its commander's control to the next position);
- where each platoon assembly area is;
- what route to take from the platoon assembly area to the company assembly area;

- the size, composition, and commander of the security force; and
- what the company's and platoons' next missions are.

Based on the information received from the company commander, each platoon leader plans for and tells his squad leaders —

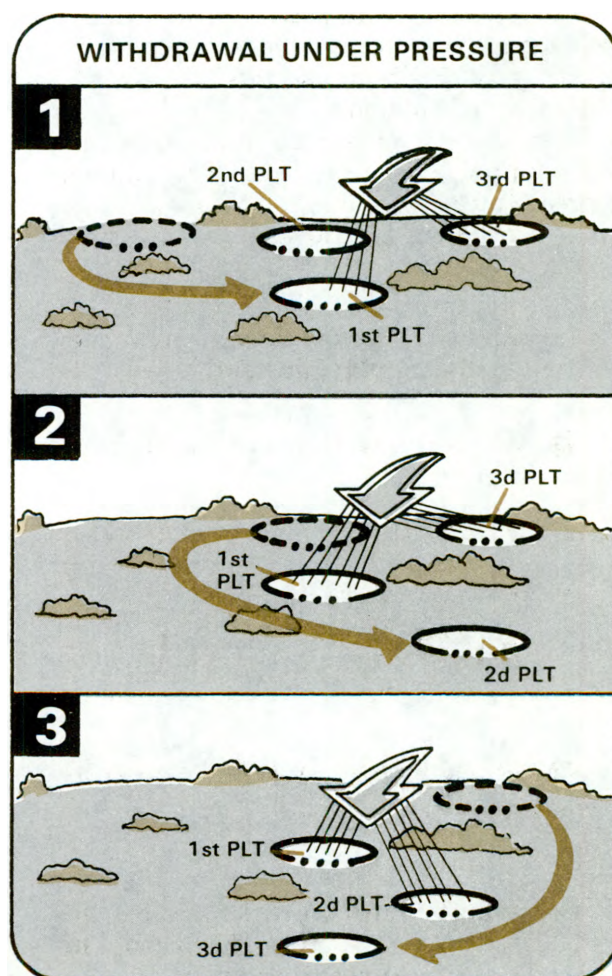
- when the withdrawal will start;
- where the platoon assembly area is and what each squad is to do on arrival in it;
- where the squad assembly areas are;
- what routes to take from the squad assembly areas to the platoon assembly area;
- the size, composition, and commander of the security force; and
- what the platoon's and squads' next missions are.



## WITHDRAWAL UNDER PRESSURE

**General.** A withdrawal under pressure is conducted when a company is forced from its defensive positions by the enemy. The company may move to other positions to continue the defense or disengage and move elsewhere for another mission. Each platoon tries to disengage from the enemy by fire and maneuver to the rear. Once a platoon has disengaged and moved to the rear of its original position, the company commander will direct what it is to do next. This may include covering the rearward movement of other platoons, occupying a new defensive position, or moving to perform another mission.

**Sequence of Withdrawal.** The company commander controls the sequence in which platoons withdraw. His decision on which to withdraw first is usually based on where the enemy attacks and how heavily each platoon is engaged. Once the company commander decides that the company must withdraw, he normally withdraws the least heavily engaged platoon first. This platoon then disengages and moves into a position where it can overwatch the disengagement of the more heavily engaged platoons. The platoons then change roles and leapfrog to the rear using fire and maneuver.



**Methods of Disengagement.** Platoons have three basic methods of disengaging from the enemy — by **thinning the lines**, by **fire teams**, and by **squads**. Fire and maneuver and bounding overwatch are keys to each method. The degree of, and level at which, fire and maneuver and bounding overwatch take place depends on how closely the enemy follows and the pressure he applies.

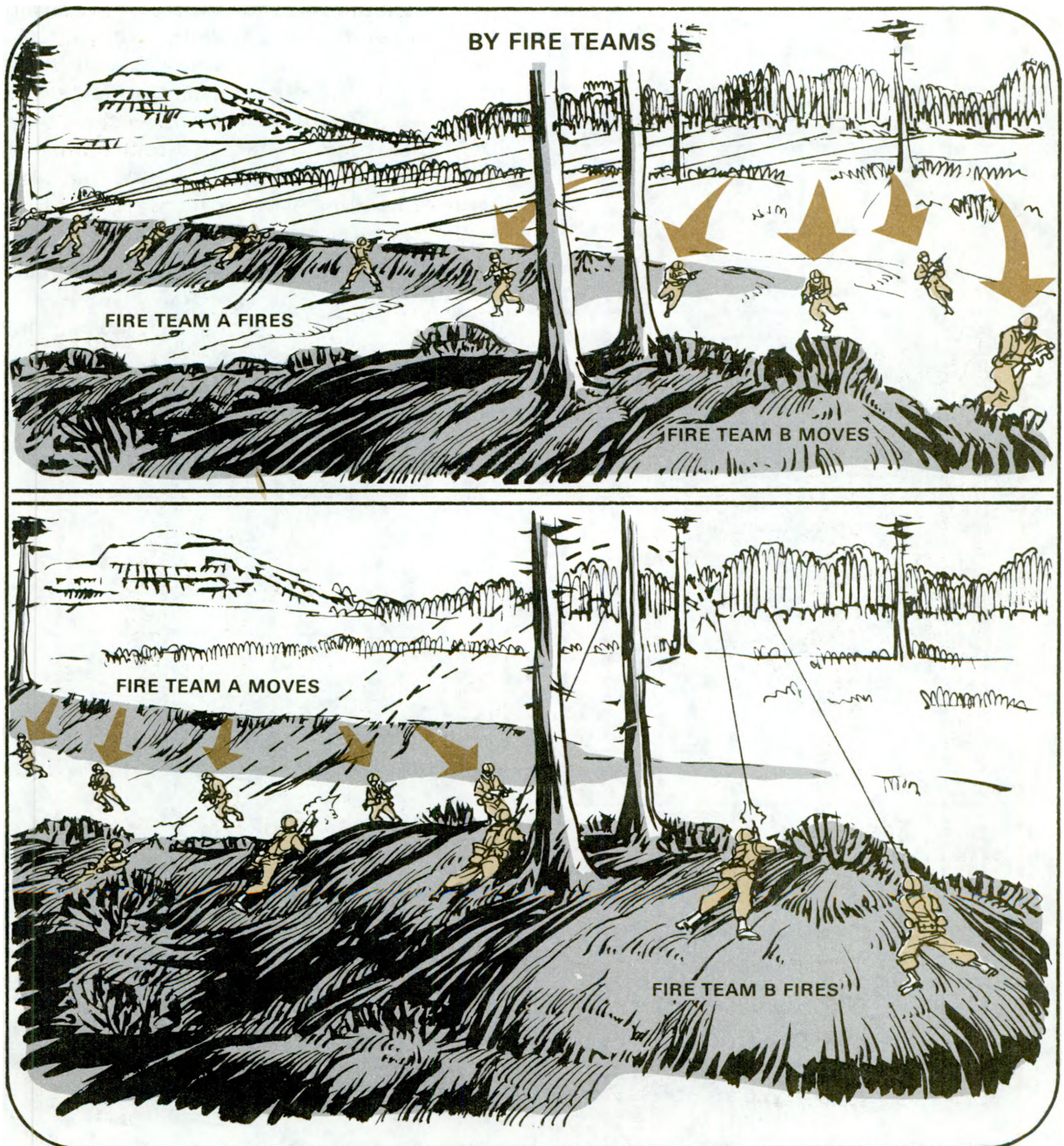
**Disengagement by Thinning the Lines.** The first stage of the fire and maneuver rearward is in the squads. Squad and team leaders have men move rearward singly to where each takes a firing position to cover the move of the others as they, in turn, move back.

BY THINNING THE LINES





**Disengagement by Fire Teams.** If enemy fire is such that thinning the lines is not necessary, or if, after having moved back far enough, it becomes no longer necessary, squads move back by fire teams. One fires and one moves. They alternate roles with each move.



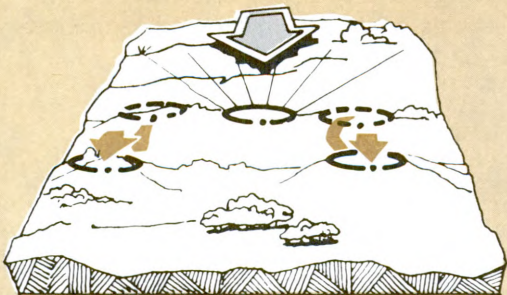


## BY SQUADS

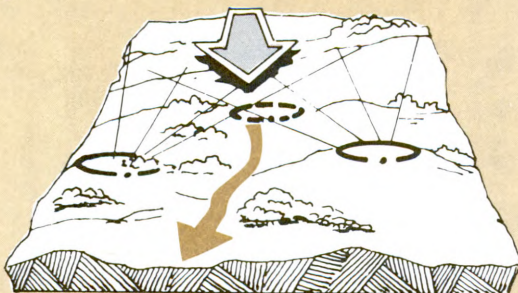
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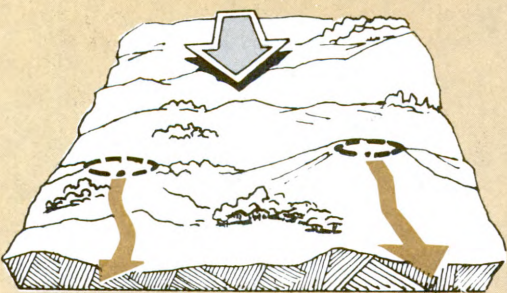
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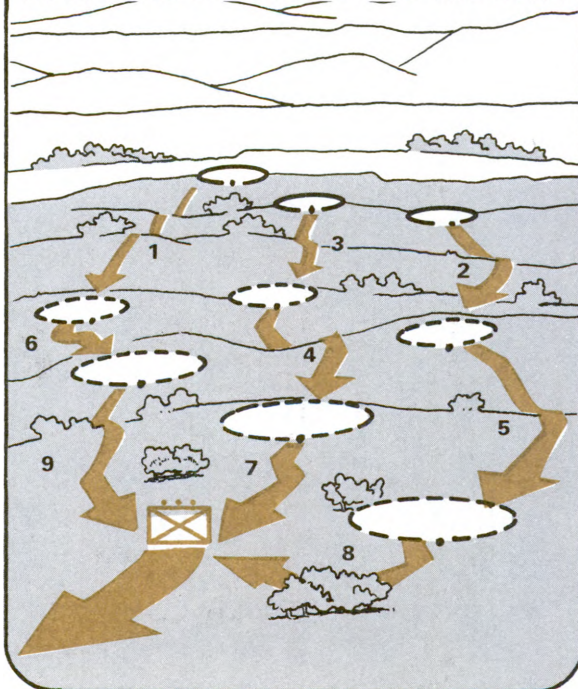


**Disengagement by Squad.** If enemy fire is such that fire and maneuver by fire teams is unnecessary, or if squads have moved back to a point where it is no longer necessary, the platoon moves back by squads. The platoon leader has each squad, in turn, move back covered by the fire of the others.

The platoon may use all three of these methods as it moves rearward. As enemy fire on it lessens, the platoon changes to the next faster method of **disengagement (first by thinning the lines, then by fire team, and then by squads)**. It uses only those methods (or that method) which are necessary for its safety while moving.

At some point in this action, the platoon can stop fire and maneuver. It will then continue its withdrawal by **bounding overwatch (to the rear)**. This occurs when the platoon is no longer under enemy direct fire or when another platoon is covering its move. Once disengagement is complete, the platoon moves as directed by the company commander.

## BOUNDING OVERWATCH TO THE REAR





## Section X

# DELAY

### INTRODUCTION

In a delay, a unit trades space for time. The intent is to slow the enemy, cause enemy casualties, and, if possible, stop him without becoming decisively engaged. This is basically done by defending, disengaging, moving, and defending again. Platoons do not conduct delays independently but fight as part of their company in a delay.

### QUARTERING PARTY

As explained in the withdrawal not under pressure, the company commander may use a quartering party to reconnoiter the positions to the rear and to help the platoons on arrival at each position. This aids preparation and occupation of positions and eases supply problems.



## PLANNING

The company commander, platoon leaders, and squad leaders reconnoiter positions and routes as much as possible before the delay starts. **The company commander normally gives each platoon —**

- an initial position to defend;
- subsequent positions to the rear;
- a platoon assembly area behind each position where the platoon moves after disengagement;
- the location of the company assembly area, when used;
- a general route to follow from position to position;
- his plan to conduct the defense, disengagement, and movement; and
- instructions about the quartering party, when used.

## DISENGAGEMENT

The company and platoons disengage from the enemy as described in a withdrawal under pressure. Once disengagement is complete, a platoon either moves to its assembly area and then to the company assembly area, or it moves directly to its next position and defends again. The method used will be specified by the company commander.

## CONTROL

The company commander controls the conduct of the delay. Each platoon leader must keep him informed of all enemy activity and the condition of his platoon. If communications are lost with the company commander, the platoon leader must use his judgment and disengage only when seriously endangered or according to the company plan. If he acts independently, he must immediately take steps to notify the company commander of the platoon's actions.



**CHAPTER 5****PATROLLING****GENERAL**

A patrol is a detachment sent out by a larger unit to conduct a combat or reconnaissance operation. The operation itself is also called a patrol. A mission to conduct a patrol may be given to a fire team, squad, platoon, or company. The leader of the detachment conducting a patrol is referred to as the patrol leader. Company-size patrols are discussed in FM 7-10.



## CATEGORIES OF PATROLS

The planned action at an objective determines a patrol's category. **There are two categories of patrols:**

**Reconnaissance (area or zone)** patrols collect information or confirm or disprove the accuracy of information previously gained.

**Combat (ambush, raid, or security)** patrols provide security and harass, destroy, or capture enemy troops, equipment, and installations. A combat patrol also collects and reports information, whether related to its mission or not.

Regardless of the category of patrol, there are four key principles to successful patrolling. These are—

- detailed planning,
- thorough reconnaissance,
- positive control, and
- all-round security.

## ORGANIZING FOR A PATROL

A patrol leader must decide what elements and teams are needed for his patrol, select men or units for these elements and teams, and decide what weapons and equipment are needed. He should, however, use his unit's normal organization (fire teams and squads) and chain of command (**team leaders, squad leaders, and platoon sergeant**) as much as possible to meet these needs. For example, a combat patrol may be organized like this: the platoon headquarters is the patrol headquarters; the 1st and 2d squads are the assault element; the 3d squad is the security element; and the machinegun teams, Dragon gunners, and platoon sergeant make up the support element.



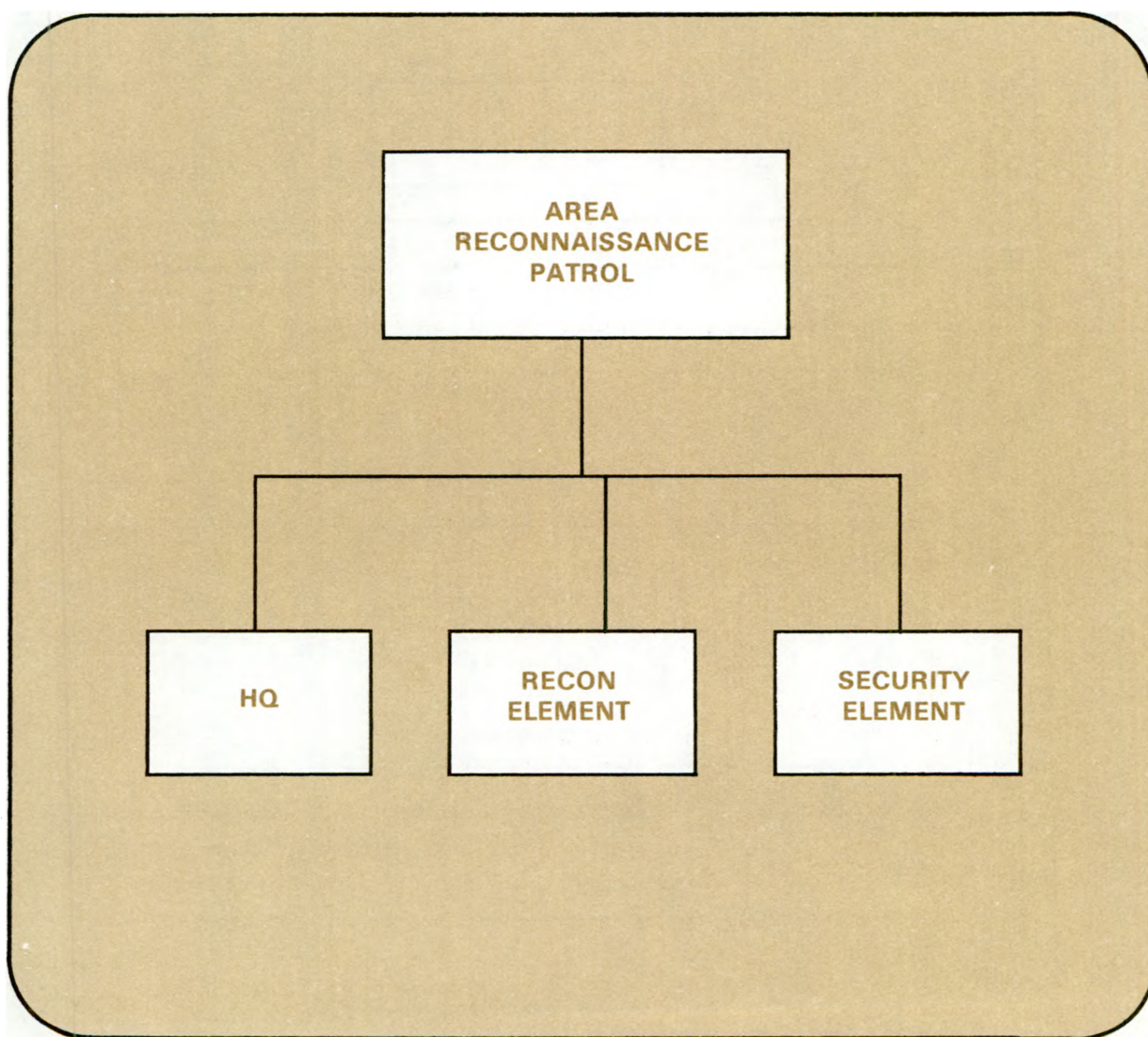
**General Organization.** A patrol generally consists of a patrol headquarters and the elements needed for the mission.

● **Patrol headquarters.** This consists of the patrol leader, assistant patrol leader, RATELOs, forward observer (FO), and any other troops required to control and support the patrol. In a small patrol (three or four men), the patrol leader may be the only man in the patrol headquarters.

● **Elements**

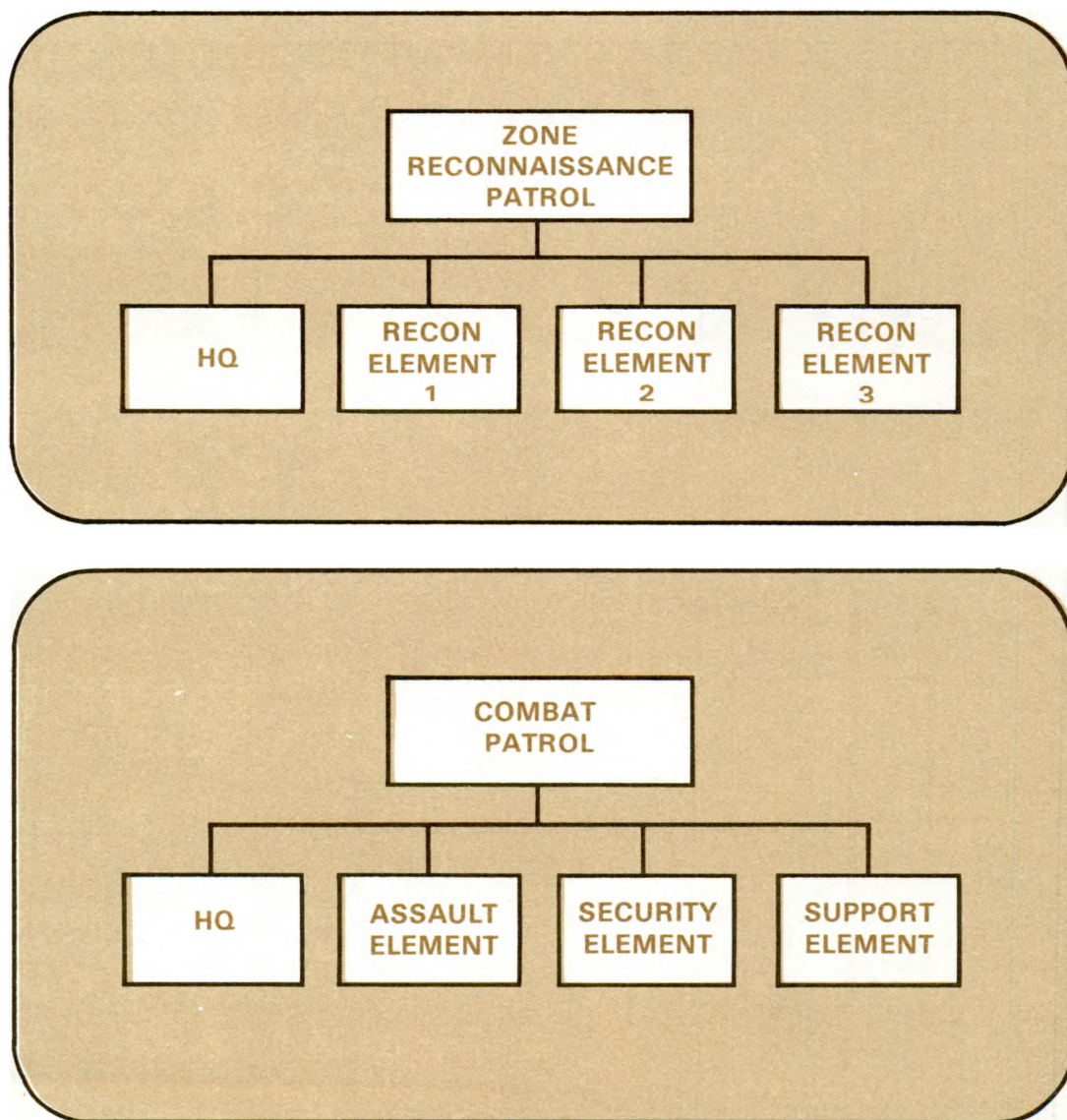
■ **Reconnaissance patrol.** A two-, three-, or four-man reconnaissance patrol is not organized into elements. Instead, it operates as a single unit providing its own security while reconnoitering. This is a reconnaissance and security (R&S) patrol.

In an area reconnaissance, a patrol is organized into a reconnaissance element and a security element.



In a zone reconnaissance, a patrol is organized into several reconnaissance elements.

■ **Combat patrol.** A combat patrol is normally organized into an assault element, a security element, and a support element. At times the support element may be omitted by adding automatic weapons to the assault element.





## SELECTING MEN, WEAPONS, AND EQUIPMENT

**Men.** Patrol members usually come from the patrol leader's platoon or squad, except when —

- the headquarters dispatching a patrol provides special troops, such as demolition specialists, interpreters, guides, scout dog teams, and FOs; and
- the patrol leader's company provides aidmen, radio operators, and messengers.

Fire team and squad integrity is maintained when possible. Men whose physical condition may interfere with the mission are not taken. For example, a man with a cold may endanger security by coughing; a man with foot trouble may slow the patrol. The patrol leader selects **only** the men needed for the mission.

**Weapons.** The weapons and ammunition selected are based on what is needed to do the job. The difficulty of carrying some weapons, because of bulk or weight, must be considered. The value of the weapon in accomplishing the mission is measured against the difficulty of carrying it.

**Equipment.** The patrol leader selects equipment for aiding control, routine use in the objective area, and use en route.

● **Aiding control.** This may include whistles, flares, radios, flashlights, and luminous tape.

● **Common use.** This is equipment normally carried on all patrols, or that which is common to all patrol members. It may include the uniform to be worn and individual equipment to be carried. An SOP prescribing routine uniform and equipment saves time in planning and preparing.

● **Use in the objective area.** This may include such items as explosives, binoculars, ropes to bind prisoners, and flashlights.

● **Use en route.** Equipment to help reach and return from the objective may include maps, binoculars, flashlights, boats, stream-crossing equipment, compasses, and wire cutters.

The patrol leader must also determine how much water and food to carry. Only required food and water are carried. Rations are carried only when needed to insure the patrol members' effectiveness or to prevent hardship.

## Section I

# PREPARATION FOR A PATROL

### INTRODUCTION

When given an order to lead a patrol, the leader starts his troop leading procedure as described in chapter 2. The procedure is modified as discussed below.

### ISSUE A WARNING ORDER

The warning order is issued to **all** patrol members. **Its format follows:**

● **Situation.** Only that information is included that the men need to make their preparations while the patrol leader plans. The complete situation is given in the patrol order.

● **Mission.** This is a brief and clear statement of what the patrol must accomplish. It must tell who, what, when, where, and why.

● **General Instructions.**

■ **Organization.** General and special organizations are given. Men or units are assigned to either the headquarters or to one of the elements or teams.

■ **Uniform and equipment common to all.** This includes clothing, personal equipment, rations and water to be carried, camouflage measures to be taken, and the means of identification the men are to take. Items such as wallets, letters, and personal papers which might reveal information if lost or captured are not taken on a patrol.





■ **Weapons, ammunition, and equipment.** If a patrol leader can determine the required weapons, ammunition, and equipment, he will go ahead and assign them to the elements. Element leaders further assign weapons, ammunition, and equipment to patrol members.

■ **Chain of command.** In squad size or smaller patrols, each man is given a place in the chain of command. In larger patrols, each element or team leader is assigned a place in the chain of command. Each element or team leader then establishes a chain of command within his element or team.

■ **Time schedule.** The patrol is given a time schedule for all activities that are to take place.

■ **Time, place, uniform, and equipment for receiving the operation order.** The patrol leader tells the men when and where the order will be given and what uniform to wear and what equipment to bring. If rehearsals or inspections are to be conducted immediately after the order, this will reduce the time lost by having the men go back and get their equipment or change uniform.

■ **Times and places for inspections and rehearsals.**

● **Specific Instructions.** Instructions are given element and team leaders for:

■ **getting, checking, and distributing:**

**weapons,  
ammunition,  
equipment,  
rations, and  
water;**

■ **preparing their men for the mission; and**

■ **coordinating, inspecting, rehearsing, and reconnoitering.**

Instructions are given to special purpose teams and key men so they can get ready by doing such things as preparing explosives, checking radios, and making a map study (point and compass men).

## WARNING ORDER FORMAT

### SITUATION

### MISSION

### GENERAL INSTRUCTIONS

Organization

Uniform and equipment common to all

Weapons, ammunition, and equipment

Chain of command

Time schedule

Time, place, uniform, and equipment for receiving the operation order

Times and places for inspections and rehearsals.

### SPECIFIC INSTRUCTIONS

### PATROL TIME SCHEDULE

0200 -	-	RETURN FRIENDLY AREA
2330 - 0200	-	MOVEMENT EN ROUTE
2300 - 2330	-	ACCOMPLISH MISSION, REORGANIZE
2230 - 2300	-	LEADERS' RECON
2000 - 2230	-	MOVEMENT EN ROUTE
2000 -	-	DEPART FRIENDLY AREA
1945 - 2000	-	MOVEMENT TO DEPARTURE AREA
1930 - 1945	-	FINAL INSPECTION
1845 - 1930	-	NIGHT REHEARSALS
1800 - 1845	-	DAY REHEARSALS
1745 - 1800	-	INSPECTION
1700 - 1745	-	SUPPER MEAL
1515 - 1700	-	SUBUNIT PLANNING AND PREPARATION
1445 - 1515	-	ISSUE OPERATION ORDER
1400 - 1445	-	COMPLETE DETAILED PLANS
1315 - 1400	-	CONDUCT RECONNAISSANCE
1300 - 1315	-	ISSUE WARNING ORDER

## COORDINATION

Coordination is continuous throughout planning and preparation. The company commander may coordinate some things and leave others for the patrol leader. For example, the company commander may arrange for the patrol to be guided to the point of departure without the patrol leader having to concern himself with this. Likewise, the company commander may coordinate the patrol's reentry of friendly areas through another unit. If this help is not given, the patrol leader will have to do it. Even though some coordination is done for him, the patrol leader checks to be sure that nothing is overlooked.

The patrol leader coordinates those things he can before leaving the place where he gets the OPOD. This will probably be a battalion or company CP where communications are better and key personnel are available to help.

The following examples are things which a patrol leader must coordinate. A patrol leader should prepare a checklist and carry it during his coordination to keep him from overlooking anything that may be vital to his mission.

### NOTE:

Some items may need to be coordinated with more than one staff section.

#### S2

- Changes in the enemy situation.
- Special equipment requirements.

#### S3

- Changes in the friendly situation.
- Route selection, LZ selection.
- Linkup procedure.
- Transportation.

- Resupply (in conjunction with S4).
- Signal plan — callsigns, frequencies, code words, pyrotechnics, and challenges and passwords.
- Departure and reentry of friendly lines (see below).
- Other patrols patrolling in area.
- Attachment of specialized troops (demolition team, scout dog team, FOs, interpreters).
- Rehearsal areas:
  - Terrain similar to objective site.
  - Security of the area.
  - Use of blanks, pyrotechnics, live ammunition.
  - Fortifications available.
  - Time the area is available.
  - Transportation.

## FIRE SUPPORT OFFICER (FSO)

### NOTE:

The company FIST chief or platoon FO can assist.

- Mission and objective.
- Routes to and from the objective (include alternate routes).
- Time of departure and expected time of return.
- Fire plan to include targets en route to and from the objective, and fire on and near the objective.
- Communications (primary and alternate means, emergency signals, and code words).



### **FRIENDLY FORWARD UNIT**

The patrol leader must coordinate closely with the friendly forward unit the patrol will pass through. If no time and place have been set for this coordination, the patrol leader should set them when he coordinates with the S3. He must talk to someone at the forward unit who has the authority to commit that unit to help the patrol pass. This is normally the company commander. Coordination entails a two-way exchange of information.

#### **Patrol leader gives:**

- Identification (himself and his unit).
- Size of patrol.
- Time(s) of departure and return.
- Area of the patrol's operation (if it is within the forward unit's area of operation).

#### **Forward unit gives:**

- Information on terrain.
- Known or suspected enemy positions.
- Likely enemy ambush sites.
- Latest enemy activity.
- Detailed information on friendly positions.
- Obstacle locations.
- Fire plan.
- Support the unit can furnish, e.g., fire support, litter teams, guides, communications, and reaction units.
- Signal plan to include the signals to be used upon reentry, and the procedure to be used by the patrol and guide during departure and reentry.

- Location(s) of detrucking point, initial rally point, departure point, and reentry point.

### **ADJACENT PATROL**

The patrol leader should check with other patrol leaders who will be patrolling in the same or adjacent areas and exchange the following information:

- Identification of the patrol.
- Mission.
- Route.
- Fire plan.
- Signal plan.
- Planned times and points for departure and reentry.
- Any information that either patrol may have about the enemy.

### **CONDUCT RECONNAISSANCE**

The patrol leader must make either a map, ground, or aerial reconnaissance prior to completing his plan.

### **COMPLETE THE PLAN**

After the warning order has been issued, reconnaissance has been made, and patrol members are preparing themselves and their equipment, the patrol leader completes his plan. He first assigns essential tasks to be performed by elements, teams, and men. After this, he plans other phases of the patrol.

**Tasks in the Objective Area.** Essential tasks in the objective area are assigned. The patrol leader plans how elements, teams, and men are to perform their tasks.

**Other Tasks.** Tasks are assigned and planned which will help the patrol reach the objective and return, e.g., navigation, security during movement and halts, actions at danger areas, actions on enemy contact, and stream crossing.

**Times of Departure and Return.** Times of departure and return are based on the amount of time needed to —

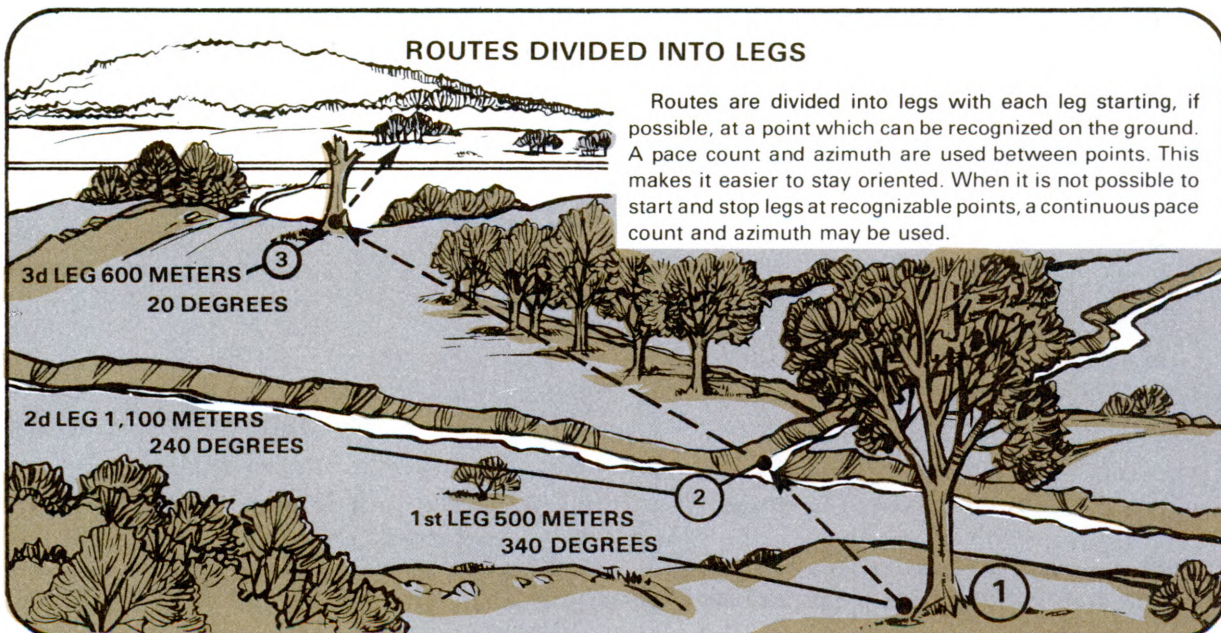
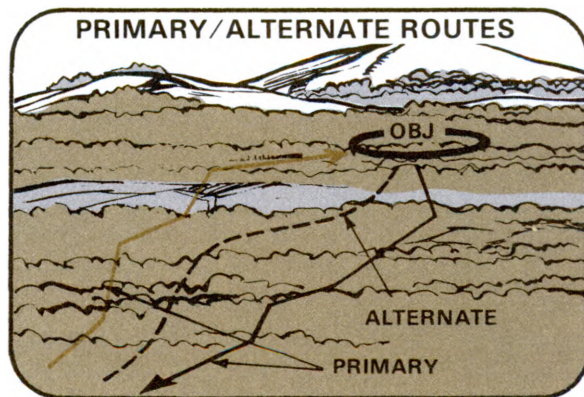
- **reach the objective.** This is determined by considering the distance, terrain, anticipated speed of movement, friendly and enemy situation, and (if applicable) the time at or by which the mission must be accomplished.

- **accomplish essential tasks in the objective area.** This includes the leaders' reconnaissance and movement of elements and teams into position, as well as the accomplishment of the patrol's mission.

- **return to a friendly area.** This may be difficult to determine because casualties, prisoners, or cap-

tured equipment may slow the patrol. The use of a different return route may change the time needed.

**Primary and Alternate Routes.** A patrol leader selects a primary route to and from the objective. The return route should be different from the route to the objective. He also selects an alternate route which may be used either to or from the objective. The alternate route is used when the patrol has made contact with the enemy on the primary route. It may also be used when the patrol leader knows or suspects that the patrol has been detected.





**Rally Points.** A rally point is a place where a patrol can —

- **reassemble and reorganize if dispersed during movement,**
- **temporarily halt to reorganize and prepare prior to actions at an objective,**
- **temporarily halt to prepare to depart from friendly lines, and**
- **temporarily halt to prepare to reenter friendly lines.**

A patrol leader should pick rally points either during the patrol, or by a map study before the patrol. The ones picked before the patrol are tentative and will remain so until confirmed on the ground.

**He should look for places that —**

- **are large enough for the patrol to assemble in,**
- **are easily recognized,**
- **have cover and concealment,**
- **are defensible for a short time, and**
- **are away from normal routes of troop movement.**

**He must —**

- **select an initial rally point on the friendly side of a forward unit's lines and an objective rally point,**
- **select rally points on both the near and far side of danger areas,**
- **select en route rally points along the route to and from the objective, and**
- **select a reentry rally point on the enemy side of a forward unit's lines.**

An **initial rally point** is where a patrol rallies if dispersed before departing friendly lines or before reaching the first rally point en route. It is located within friendly lines.

An **en route rally point** is where a patrol rallies if dispersed en route to or from its objective. There may be several en route rally points. They are located between friendly lines and an objective along a patrol's route.

An **objective rally point** is where a patrol halts to prepare for actions at its objective. It is also where a patrol returns to after its actions at its objective. It must be located near a patrol's objective but there is no set distance from the objective for it. However, it should be far enough from the objective so that the patrol's activities in it will not be detected by the enemy.

It must also be far enough from the objective so that it will not be overrun if the patrol is forced off its objective.

A **reentry rally point** is where a patrol halts to prepare to reenter friendly lines. It is located just short of friendly lines and out of sight and sound of friendly observation posts.

**Rehearsals and inspections** are vital to proper preparation. They must be well planned and conducted even though the men are experienced in patrolling. Coordinating is made with the commander or S3 for use of a rehearsal area resembling the objective area. Plans must provide for inspections by element and team leaders as well as the patrol leader.

**Rations.** The patrol leader must determine whether the men should carry rations. If so, he specifies the type and amount and where to get them.

**Weapons and ammunition.** The warning order lists the weapons and ammunition to support the tentative plan. If changes are necessary, the patrol leader tells his element leaders.

**Uniform and Equipment.** If changes to the warning order are necessary, the patrol leader tells his element leaders.

**Signals.** The signals to be used on the patrol must be planned and rehearsed. Signals may be needed to lift or shift supporting fire, to start an assault, to order withdrawal from the objective, to signal "all clear," and to stop and start movement of the patrol. Visual and audible signals such as arm-and-hand signals, flares, voice, whistles, radios, and infrared equipment may be used. All signals must be known by all patrol members.

**Communications with Higher Headquarters.** The plan must include radio callsigns, primary and alternate frequencies, times to report, and codes.

**Challenge and Password.** The challenge and password from the CEOI should not be used beyond the FEBA. The patrol leader may devise his own challenge and password system to be used beyond the FEBA. An example of this is the **odd-number system**. Any odd number can be used. If the patrol leader specified 11 as the odd number, the challenge could be any number between 1 and 10. The password would be the number which, when added to the challenge, equals 11 (e.g., challenge 8, password 3).

**Chain of Command.** Changes to the chain of command given in the warning order are included in the order.

**Location of Leaders.** The locations of the patrol leader and assistant patrol leader are planned for all phases of the patrol — during movement, at danger areas, and at the objective.

● The patrol leader plans to be where he can best control the patrol during each phase.

● The assistant patrol leader may be given a special job for each phase of the

patrol. He may help the patrol leader control the patrol by being where he can best take command, if required.

● Some places the assistant patrol leader may be during actions in the objective area are:

- On a raid or ambush, with the support element.
- On an area reconnaissance, in the objective rally point (ORP).
- On a zone reconnaissance, with a reconnaissance element which has been directed to move to and establish the point at which all elements are to link up after reconnoitering.

## ISSUE OPERATION ORDER

The order is issued in standard OPORD sequence. Terrain models, sketches, or blackboards are used to illustrate the plan. Sketches to show planned actions can be drawn in the sand, dirt, or snow.

Patrol members may make notes but should hold questions until the order is completed. This prevents interruption of the patrol leader's train of thought.

### OPORD FORMAT

#### 1. SITUATION.

##### a. Enemy forces.

Identification.

Location.

Activity.

Weather.

Terrain.

##### b. Friendly forces.

Mission of next higher unit.

Location and planned actions of units on right and left.



## OPORD FORMAT CONTINUED

Mission and routes of other (adjacent) patrols.

Fire support available.

c. Attachments and detachments.

**2. MISSION.**

**3. EXECUTION.**

a. Concept of operation (scheme of maneuver and fire support plan).

b. Subunit tasks (elements/ teams/ men).

c. Coordinating instructions.

(1) Time of departure and return.

(2) Movement techniques and order of movement.

(3) Route (primary and alternate).

(4) Departure and reentry of lines.

(5) Rally points and action at rally points.

(6) Action at danger areas.

(7) Action on enemy contact.

(8) Action at the objective.

(9) Fire support (if not already covered).

(10) Intelligence requirements.

(11) Other tasks (stream crossings, boat operations, etc.).

**4. SERVICE SUPPORT.**

a. Rations and water.

b. Arms and ammunition.

c. Uniform and equipment.

d. Method of handling wounded, PWs, and captured equipment.

e. Transportation.

**5. COMMAND AND SIGNAL.**

a. Signal.

(1) Arm-and-hand and other signals, codes, and radio callsigns and frequencies to use within the patrol.

(2) Report, codes, and radio frequency(s) and callsigns to use with higher headquarters.

(3) Challenge and password.

b. Command.

(1) Chain of command.

(2) Location of patrol leader during movement and at the objective.

## INSPECT, REHEARSE, SUPERVISE

Inspections and rehearsals are vital. They are conducted regardless of the patrol's experience level. The extent of rehearsals and inspections depends on the time available, the complexity of the patrol, and the experience of the men.

**Inspections** determine the patrol's physical and mental state of readiness. Inspections before rehearsals insure completeness and correctness of uniform and equipment. **Men are questioned to see if each one knows —**

- the plan;
- what he is to do and when he is to do it;
- what others are to do; and
- challenges and passwords, signals, codes, radio callsigns, frequencies, and reporting times.

An inspection after the final rehearsal and just before departure insures that all equipment is still working, that nothing is being left behind, and that the men are ready.

**Rehearsals** help insure the proficiency of the patrol. They let the patrol leader check plans and make any changes needed. The suitability of equipment is verified. It is through well-directed rehearsals that men become familiar with the things they will do when on the patrol.

If the patrol is to be at night, it is advisable to have both day and night rehearsals. Terrain similar to that over which the patrol will operate should be used. All actions are rehearsed when time permits. When time is short, only the most critical actions are rehearsed. Actions in the objective area are the most critical and should always be rehearsed.

A good way to rehearse is to have the patrol leader walk and talk the whole patrol through each action. He describes the actions of elements, teams, and men, and has them perform these actions. In this "dry run," men take their positions in formations at reduced distances. This can all be done with little or no distance separation so the members get the "feel" of the patrol. When the different actions are clear to the patrol members, a complete (**normal speed**) rehearsal is gone through with the whole patrol. This is a "wet run." As many "dry runs" and "wet runs" are conducted as are necessary to gain proficiency. When possible, element and team leaders rehearse their units separately, before the final rehearsal of the entire patrol.

**Supervision is continuous by all leaders.**



## Section II

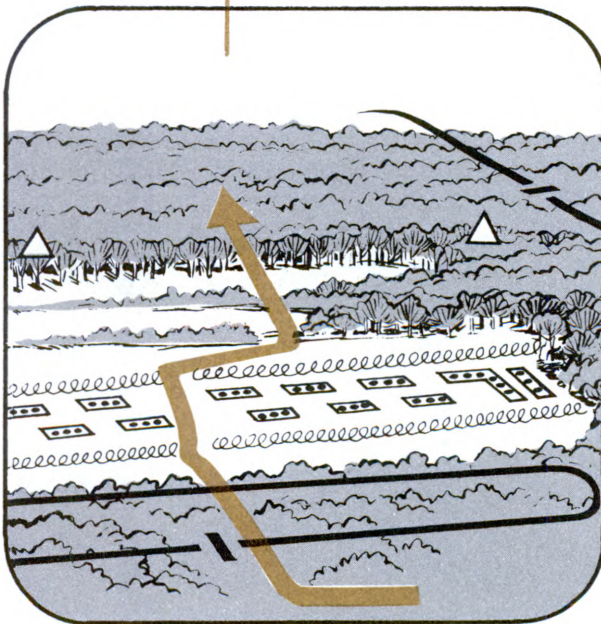
# COMMON PATROLLING TASKS

### INTRODUCTION

Soldiers who patrol must know a variety of tasks. Although not every patrol requires the same tasks, those discussed here are common to most patrols.

### DEPARTURE FROM FRIENDLY LINES

The departure of a patrol through another unit's lines can be confusing and dangerous if not well coordinated. The patrol leader must coordinate the departure with the forward unit commander. Sample coordination is shown in section II.



When the patrol is ready to conduct the passage, it moves up and halts at the initial rally point.

Before passing through the forward unit, the patrol leader again checks with that unit's commander to learn of recent enemy activity or situation changes that may require adjustment in the plan.

A guide from the forward unit then leads the patrol through his unit and through the wire and other obstacles forward of the unit.

The forward unit may have OPs to its front which help secure the patrol as it moves out. The patrol moves beyond the range of the friendly unit's small arms and final protective fire (FPF), and halts briefly to adjust to sights and sounds of the battlefield.

## MOVEMENT

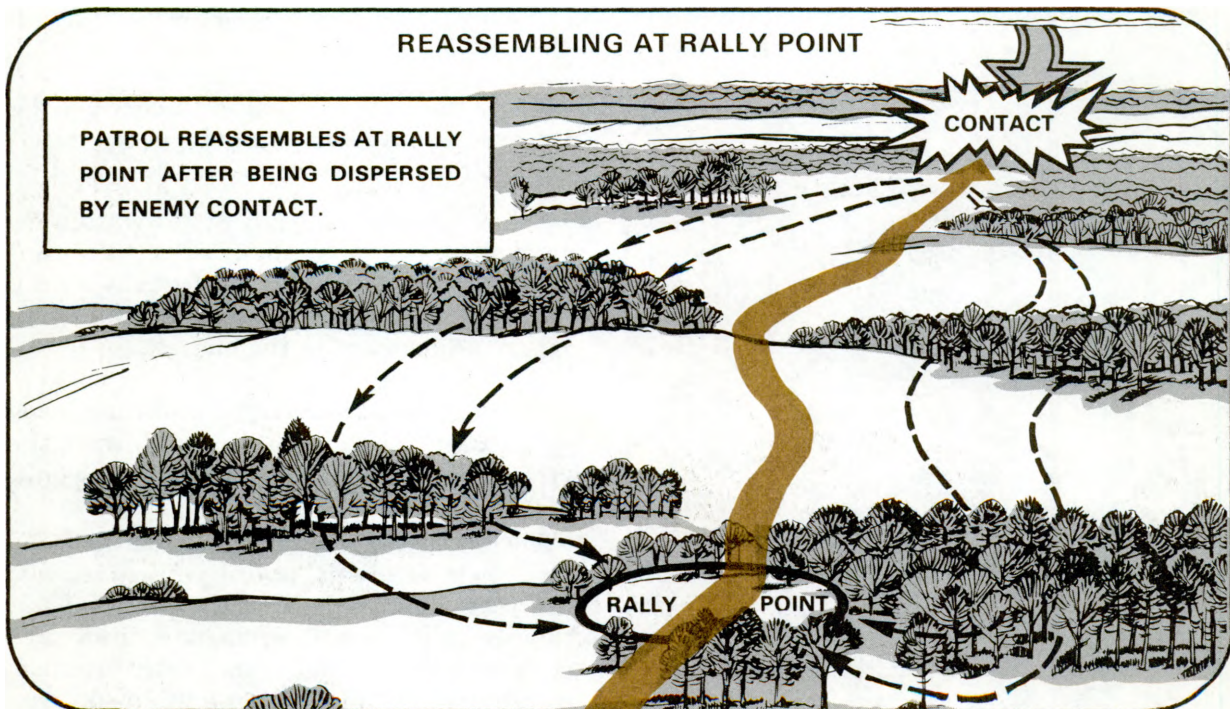
The patrol uses the movement techniques discussed in chapter 3.

### USE OF RALLY POINTS

As the patrol moves along its route, the patrol leader will select and announce rally points. If dispersed between rally points en route, the patrol rallies at the last rally point.

**Actions at rally points.** Actions to be taken at rally points must be planned in detail. The plan must provide for the continuation of the patrol as long as there is a good chance to accomplish the mission. Two examples of plans are:

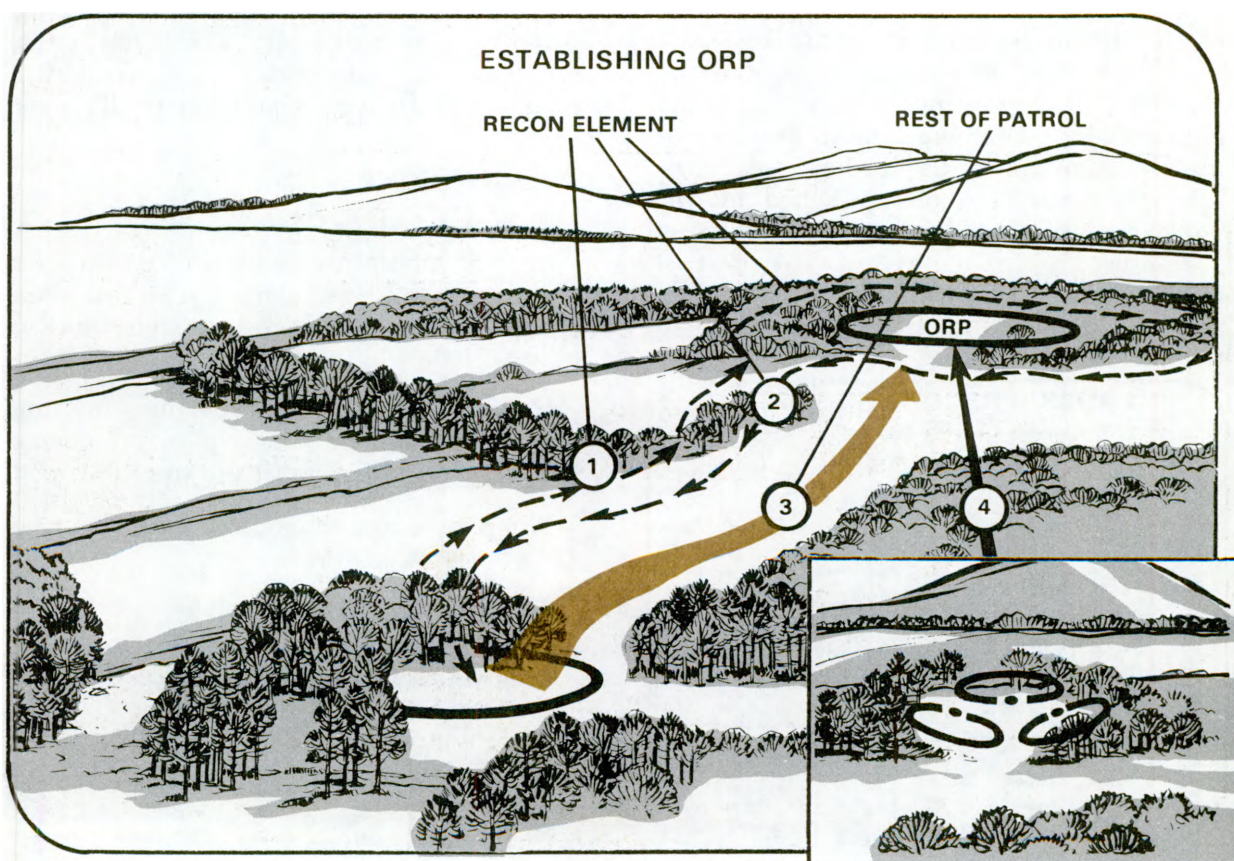
The assembled patrol members will wait until a set number of men arrive and then go on with the mission under the senior man present. This plan is good for a reconnaissance patrol when two or three men may be able to accomplish this mission.





The assembled patrol members will wait for a set period, after which the senior man present will decide whether to continue the patrol or not, based on troops and equipment present. This may be the plan when a minimum number of men, or certain items or equipment, or both, are needed to accomplish the mission.

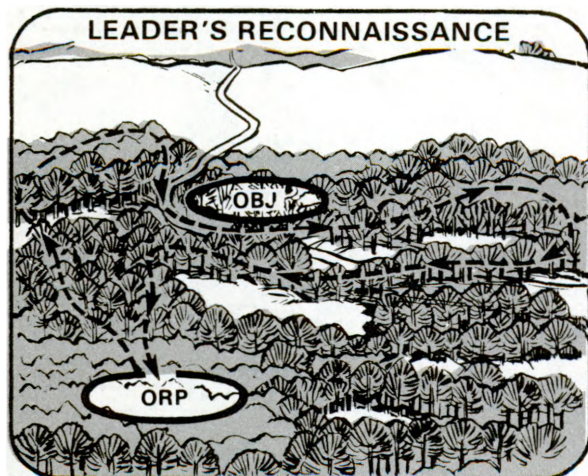
**Objective rally point (ORP).** As the patrol nears the tentative ORP, it halts and a reconnaissance element (1) moves forward to see if it is suitable as an ORP and too see that no enemy troops are near. When the patrol leader is satisfied (2), two men are sent back to (3) bring the rest of the patrol into the ORP. (4) The patrol then sets up a perimeter for all-round security.



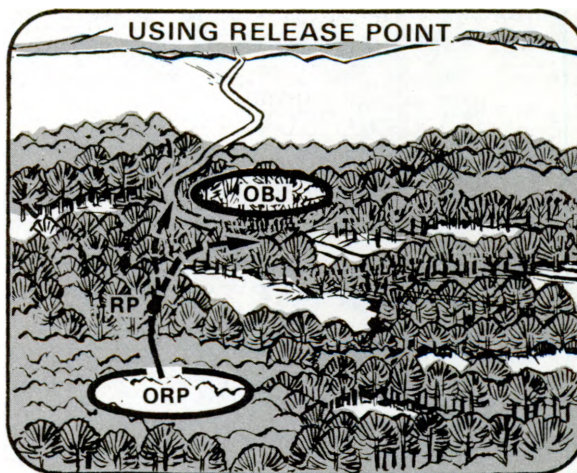
When the ORP is occupied and secure, the patrol leader, compass man, and element leaders go on a **leaders' reconnaissance**. Before the patrol leader goes, he tells the assistant patrol leader:

- who he is taking with him,
- how long he will be gone,
- what to do if he fails to return,
- what to do if he makes enemy contact, and
- what to do if the assistant patrol leader makes enemy contact.

This reconnaissance is done to pinpoint the objective, to pick positions for the patrol's elements, and to get information to confirm or change the plan. After the leaders' reconnaissance, the leaders return to the ORP to complete the plans and disseminate information. While they are doing this, one or more men may stay behind to watch the objective. On a reconnaissance patrol, if the patrol leader gets enough information about the objective during the leaders' reconnaissance, the mission is accomplished and the patrol returns to friendly lines. If he does not get enough information, the patrol reconnoiters as planned until enough information is gained to satisfy the requirement of the mission.



If the patrol is to move out of the ORP as one group, for its action at the objective, its leader may pick a release point (RP) where the patrol will separate; each element goes on its own route from the release point to its position.



When the mission is accomplished, the patrol assembles in the ORP and disseminates information to all patrol members. It then goes back to friendly lines.

## ACTIONS AT DANGER AREAS

Specific plans are made in advance for crossing each known danger area (**an area which increases the chance of detection or a fight**).

General plans are made for crossing unexpected danger areas — plans which can be quickly modified to fit the situation.

When moving, the patrol tries to avoid danger areas.

Typical danger areas are —

- known enemy positions,
- roads and trails,
- streams, and
- open areas.



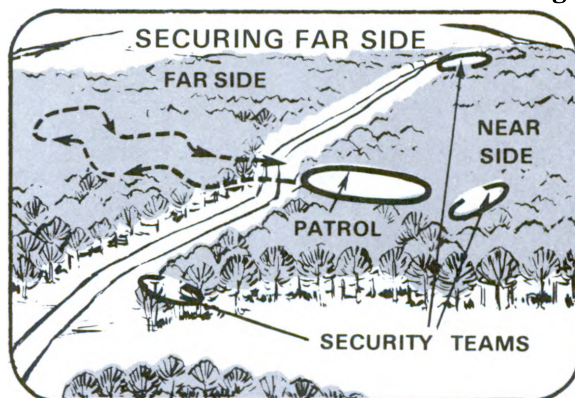
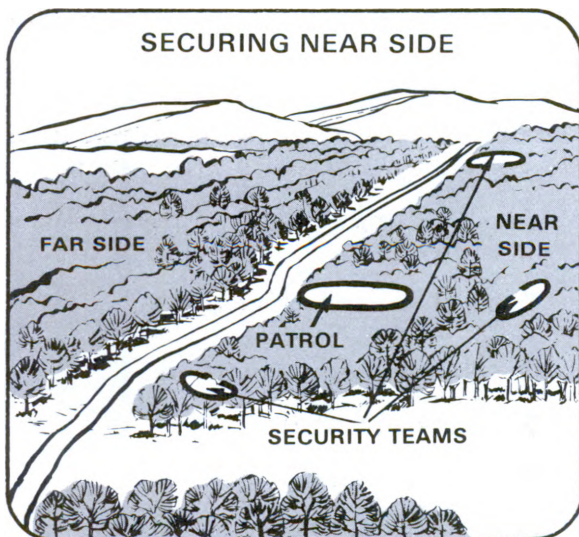
The patrol uses **bounding overwatch** or variations of it to cross a danger area. The leader decides how the patrol will cross based on the time he has, the size of the patrol, the size of the danger area, the fields of fire into the area, and the amount of security he can post. A small patrol may cross all at once, in pairs, or one man at a time.

A large patrol normally crosses its elements one at a time. As each element crosses, it moves to an overwatch position or to the far side rally point until told to continue movement.

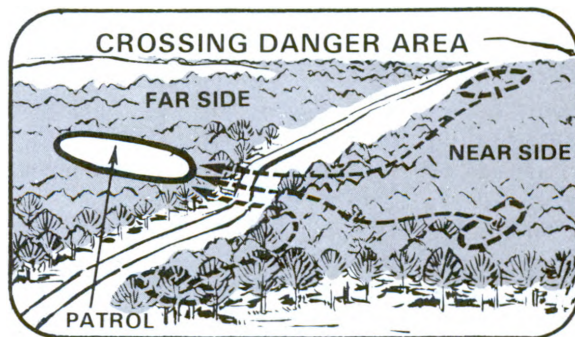
To cross a danger area, a patrol must—

- designate near and far side rally points,
- secure the near side,
- secure the far side, and
- cross the danger area.

Securing the near side may involve nothing more than observing. In other places, it may involve posting security teams far enough out on both flanks and to the rear of the crossing point to give warning of approaching enemy and to overwatch the crossing of the rest of the patrol.



enough for the entire patrol to deploy in. When the team leader is sure the far side is safe, he sends two men back to signal the rest of the patrol to cross. When the patrol has crossed the danger area, the security teams cross and rejoin the patrol.



## ACTIONS ON ENEMY CONTACT

Unless it is required by the mission, a patrol must strive to avoid enemy contact. But, a patrol may make unexpected contact with the enemy. It must then quickly break contact so it can continue its mission.

**Immediate action drills.** Immediate action drills are well rehearsed plans intended to provide fast reaction to unexpected enemy contacts. Leaders should

prepare immediate action drills for the most common situations. These drills must have —

- **SIMPLICITY** (Every man must be able to understand the plan and be able to carry out his part of the plan.)
- **SPEED OF EXECUTION** (As soon as any member of the patrol recognizes a situation requiring an immediate action, he initiates the appropriate drill.)

Arm-and-hand signals should be developed for each immediate action drill to preclude a need for oral communications.

The following are immediate action drills.

#### **AIR ATTACK**

The first man to see an aircraft shouts, **AIRCRAFT, FRONT (RIGHT, LEFT, OR REAR)**. If the patrol leader sees that the aircraft is making a firing run on the patrol, he hits the ground at once and shoots at the aircraft. All men follow his example. (See appendix H for discussion of the use of small arms in air defense.)

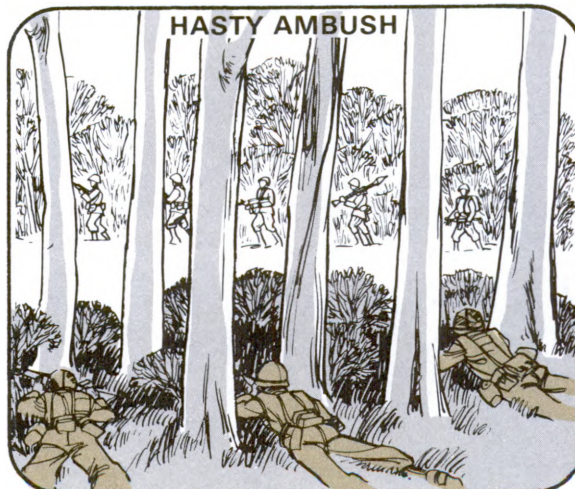


#### **CHANCE CONTACT**

**“FREEZE.”** This immediate action drill is used when a patrol, not yet seen by the enemy, sees the enemy and does not have time to take any other action. All men hold still until signaled to continue or to do something else.



**“HASTY AMBUSH.”** This immediate action drill is used when a patrol, not yet seen by the enemy, sees the enemy approaching and has time to take some action other than to “FREEZE.” When the signal is given to initiate the drill, all men move on line and take concealed firing positions. The patrol leader lets the enemy pass if his patrol is not detected. If the patrol is detected, the ambush is initiated.



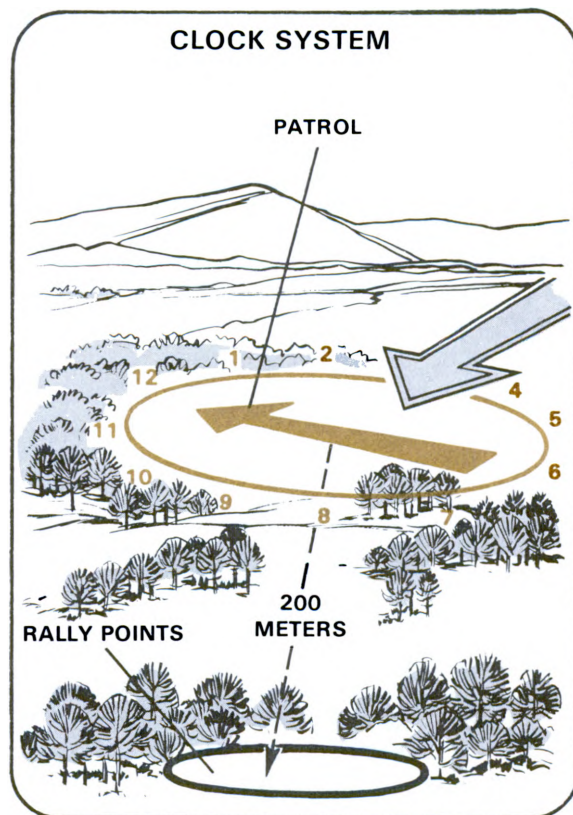


**“IMMEDIATE ASSAULT.”** This immediate action drill is used when a patrol and an enemy element of the same size or smaller see each other at the same time and at such close range that fire and maneuver is not feasible. The men nearest the enemy open fire and shout, **CONTACT, FRONT (RIGHT, LEFT, OR REAR).** The patrol moves swiftly into the assault. They stop the assault if the enemy withdraws and breaks contact. If the enemy stands and fights, the assault is carried through the enemy and movement is continued until the enemy is destroyed or contact is broken.



**“CLOCK SYSTEM.”** This immediate action drill is used when a patrol and a larger enemy element see each other at the same time. The patrol must break contact or be destroyed. The direction in which the patrol is moving is always 12 o'clock. When contact is made, the patrol leader shouts a **direction** and a **distance** to move. For example, **EIGHT O'CLOCK, TWO HUNDRED.** This tells the patrol to move in the direction of 8 o'clock for 200 meters. Each man must be sure to move in relation to the patrol's direction of march, not in relation to the

direction of the enemy or the direction he is facing at that moment. The patrol rallies at the designated distance away and continues its mission.

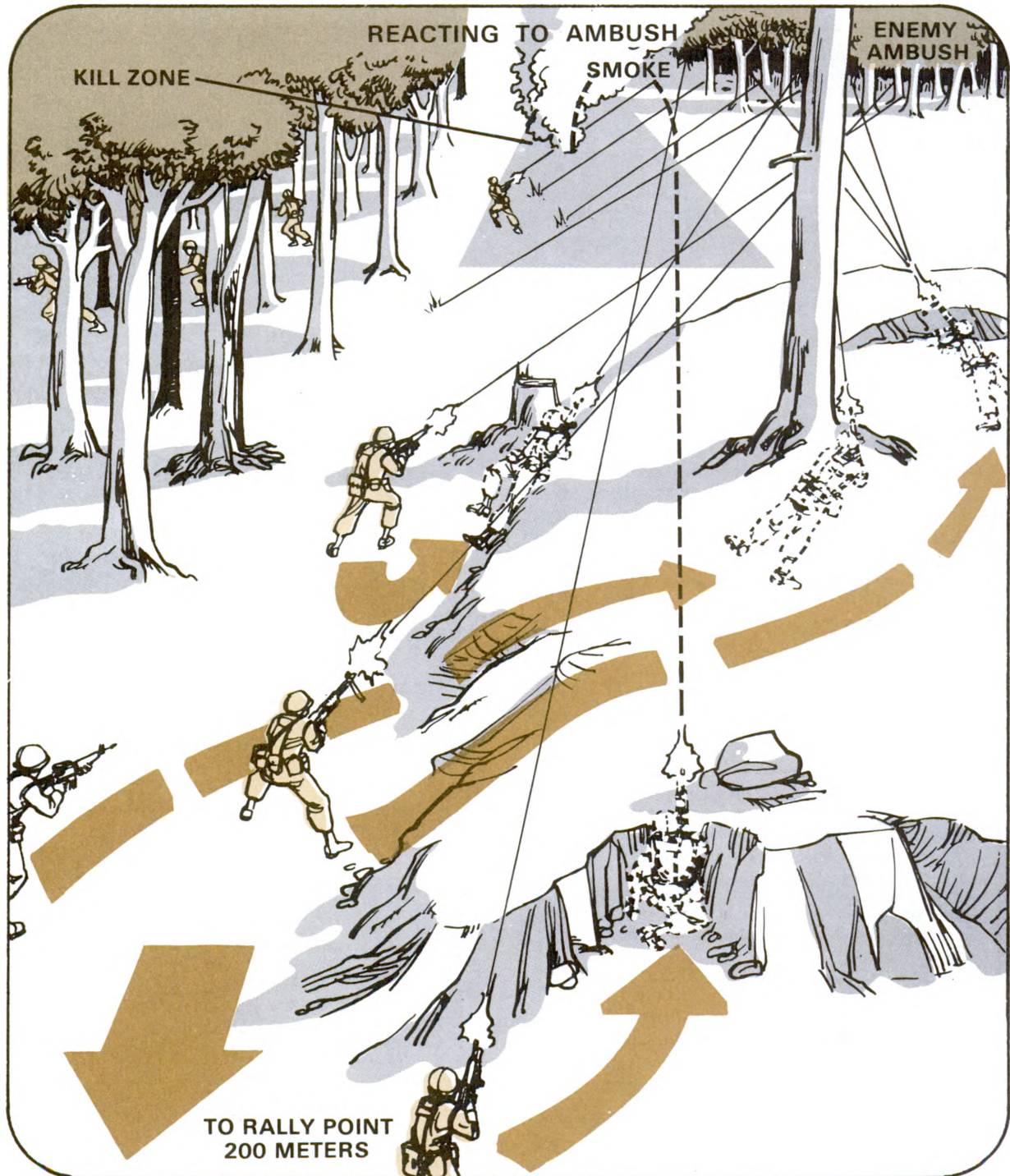


### AMBUSH

If a patrol finds itself in an enemy ambush, it must get out of the kill zone or face destruction. It must take the following immediate actions:

- The men in the kill zone, without order or signal, immediately return fire, and quickly move out of the kill zone by the safest way. (There is no set way to do this; it must be each man's decision for his situation.) Smoke can help conceal the men in the kill zone.
- The men not in the kill zone fire to support the withdrawal of the men in the kill zone.

- The patrol breaks contact and reorganizes in the last designated rally point.





### INDIRECT FIRE

If a patrol comes under indirect fire, the patrol leader immediately has the patrol move out of the impact area quickly. The men do not seek cover. By continuing to move, the patrol is more difficult to hit and the chances of being pinned down are less.

### SNIPER FIRE

If a patrol comes under sniper fire, it immediately returns fire in the direction of the sniper. The patrol then conducts fire and maneuver to break contact with the sniper.

### METHOD OF HANDLING WOUNDED, DEAD, AND PRISONERS

There should be an SOP for handling wounded, dead, and prisoners. The method used must not jeopardize the mission.

**Wounded** are moved from the immediate area of a firefight before being given first aid. Administering first aid during a firefight increases the risk of more casualties.

Walking wounded may
be evacuated by air, accompany the patrol, conceal themselves for later pickup, or return on their own to friendly areas.
Seriously wounded may
be evacuated by air (this is generally practical only when the patrol is returning to friendly areas), or be concealed for later pickup (another man should be left with the wounded man).

**Dead** may be handled the same way as seriously wounded, except that, when concealed for later pickup, no one is left with the body.

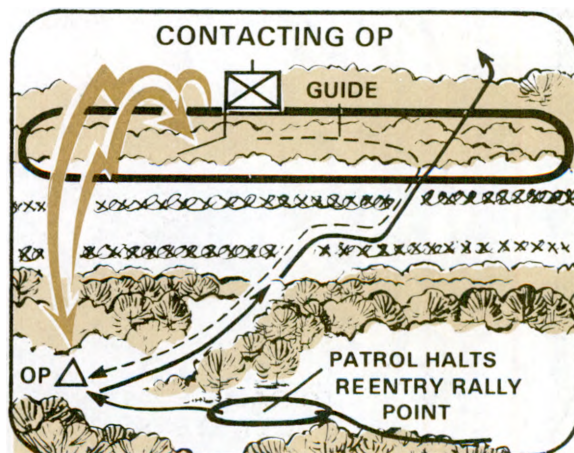
**Prisoners** are bound and gagged; they may be blindfolded. They may then be

taken under guard to a friendly area. They may (**like the seriously wounded**) be evacuated by air, taken with the patrol, or concealed for later pickup.

### REENTRY OF FRIENDLY LINE

The reentry of a patrol through another unit's lines can be confusing and dangerous if not well coordinated. The patrol leader should (**when possible**) coordinate the reentry with the friendly unit commander prior to the patrol's departure. Sample coordination is shown in section II.

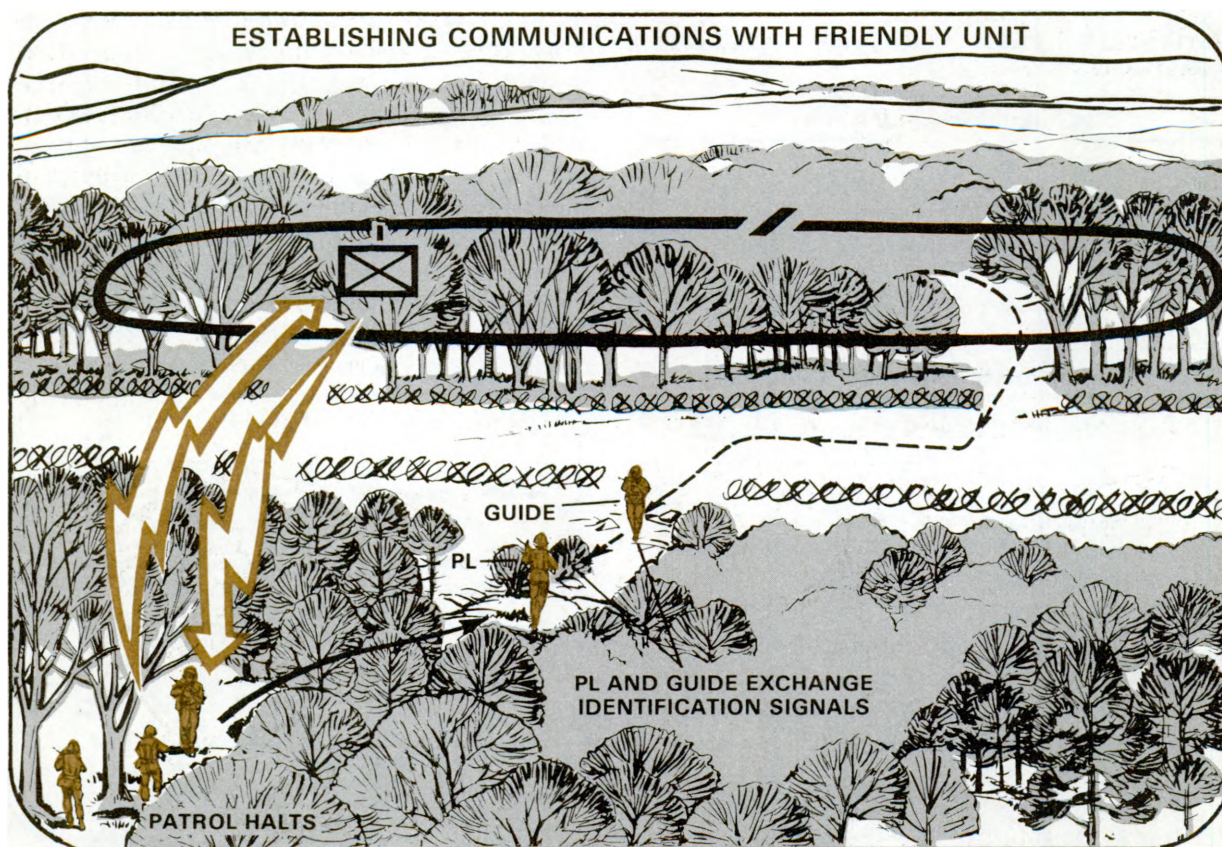
When a patrol returns to friendly lines, it stops at the reentry rally point just short of the friendly unit, out of sight and sound or its observation posts (OPs). The leader transmits a radio message (**a prearranged code word**) to tell the friendly unit that the patrol is ready to reenter. The message must be acknowledged before the patrol moves in. This is to make sure that men of the friendly unit do not shoot at the returning patrol. If radio communications are not possible, one man should contact an OP using the challenge and password. Once contact is made, the OP can then relay a message to the unit's commander. The friendly unit will then send a guide to lead the patrol through its position. The patrol leader should tell the friendly unit commander anything of tactical value to him.



If communications are established, and the friendly unit is prepared to guide the patrol through the lines, the patrol moves forward to the reentry point. The guide and patrol leader exchange signals to identify the patrol. Once identified, the patrol moves forward and is led through the lines by the guide. The assistant patrol leader should stay at the reentry point and count the men through the lines. This will insure that only the patrol members reenter friendly lines.

If no communications can be established, or no OPs can be found, and a reentry point was coordinated prior to the patrol's departure, the patrol can still conduct the

reentry. The patrol leader takes a small security team with him to reconnoiter for the reentry point. He leaves the rest of the patrol outside of small arms range of friendly lines. He avoids probing around wire obstacles. One way to find the reentry point when visibility is poor is to have the guide turn on an infrared light or a flashlight shielded with a red lens. **(This must be coordinated before the patrol departs friendly lines.)** Either is easy to see with a starlight scope. The patrol leader then makes contact with the guide. He then sends two men to bring the patrol forward. The guide then leads the patrol through the lines. The assistant patrol leader should stay at the reentry point and count the men through the lines.





## Section III

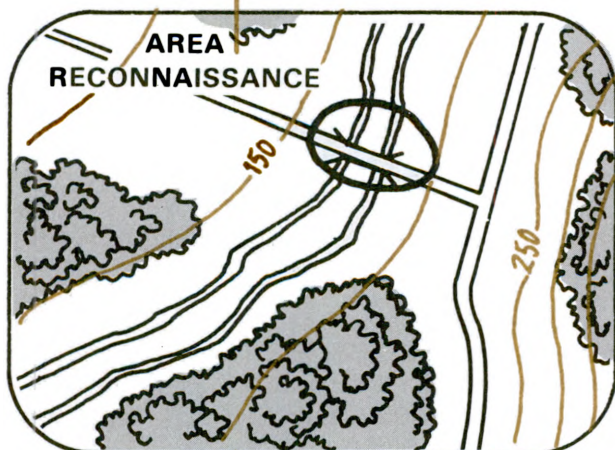
## RECONNAISSANCE PATROL

## INTRODUCTION

Reconnaissance patrols provide timely and accurate information of the enemy and terrain. The commander must tell the patrol leader what the specific intelligence collection requirements are for each mission.

### TYPES OF RECONNAISSANCE PATROLS

**Area Reconnaissance.** This is a reconnaissance conducted to obtain information concerning a specific location and the area immediately around it (e.g., road junction, hill, bridge, enemy position). The location of the objective is designated by either grid coordinates or a map overlay with a boundary line encircling the area.



**Zone Reconnaissance.** This is a reconnaissance conducted to obtain information on all enemy, terrain, and routes within a specific zone. The zone is defined by boundaries.

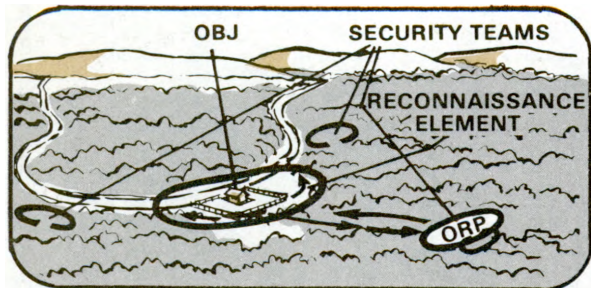


## CONDUCT OF AN AREA RECONNAISSANCE

A patrol uses the **surveillance/vantage point method** to conduct an area reconnaissance. The patrol leader uses a series of surveillance/vantage points around the objective from which to observe it and the surrounding area.

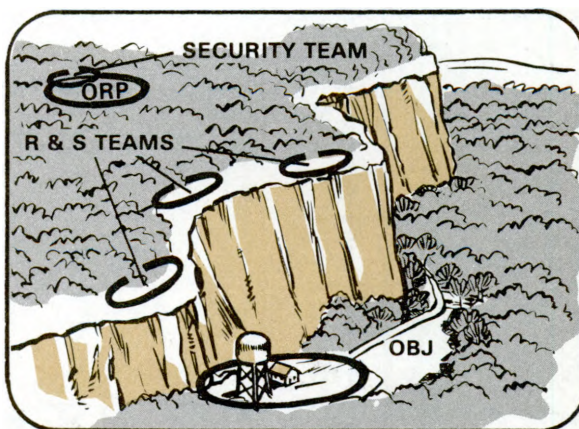
The patrol halts in the ORP and establishes security. The patrol leader confirms the patrol's location. The patrol leader and element leaders conduct a leaders' reconnaissance of the objective area to confirm the plan and then return to the ORP. The security element departs the ORP before the reconnaissance element. The security element leader positions security teams at the ORP, and on likely enemy avenues of approach going into the objective area.

Once the security teams are in position, the reconnaissance element departs the ORP. The reconnaissance element moves to several surveillance/vantage points around the objective. The reconnaissance element leader may decide to have a small reconnaissance team move to each surveillance/vantage point instead of having the entire element move as a unit from point to point. Once the objective has been reconnoitered, the elements return to the ORP and information is disseminated. The patrol then returns to friendly lines.



The terrain may not allow a patrol to secure an objective area. In this case, the patrol leader leaves a security team in the ORP and uses reconnaissance and security (R&S) teams to reconnoiter the objective. These

teams move to different surveillance/vantage points from which they reconnoiter the objective. Once the objective has been reconnoitered, the R&S teams return to the ORP and disseminate the information. The patrol then returns to friendly lines.



## CONDUCT OF A ZONE RECONNAISSANCE

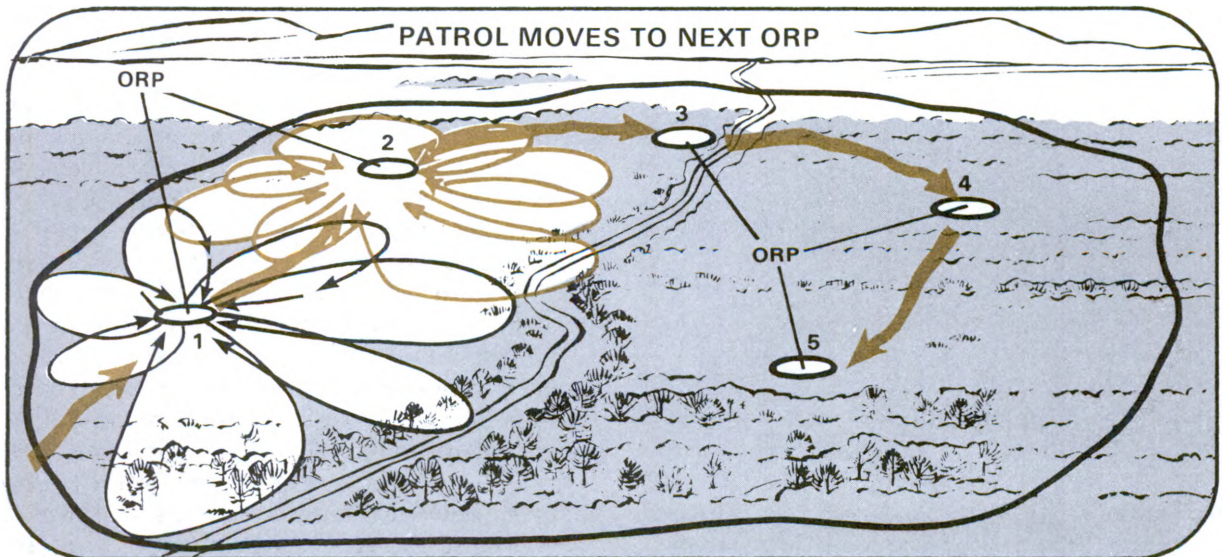
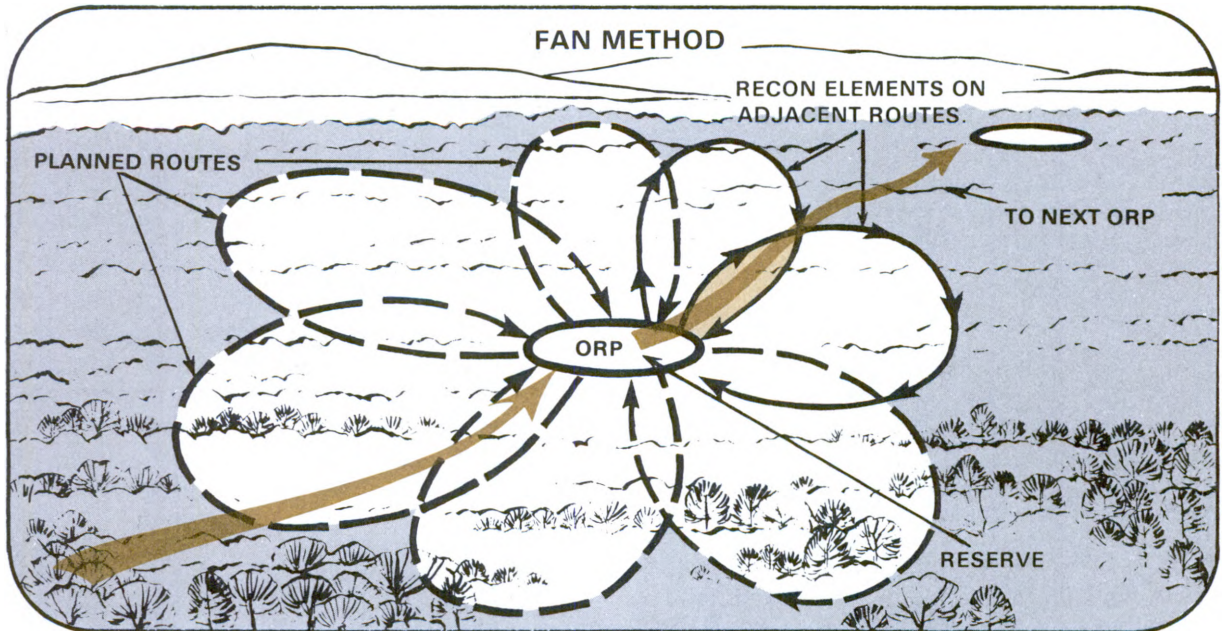
There are three basic methods of conducting a zone reconnaissance — **fan method, converging routes method, and successive sector method.**

**Fan method.** The patrol leader first selects a series of ORPs throughout the zone from which to operate. When the patrol arrives at the first ORP, it halts and establishes security. The patrol leader confirms the patrol's location. He then selects reconnaissance routes out from and back to the ORP. (These routes form a fan-shaped pattern around the ORP. The routes must overlap to insure that the entire area has been reconnoitered.) Once the routes have been selected, the patrol leader sends out reconnaissance elements along the routes. He does not send out all of his elements at once. He keeps a small reserve in the ORP. (Example: If the patrol has three reconnaissance elements, only two are sent out. The other one is kept as



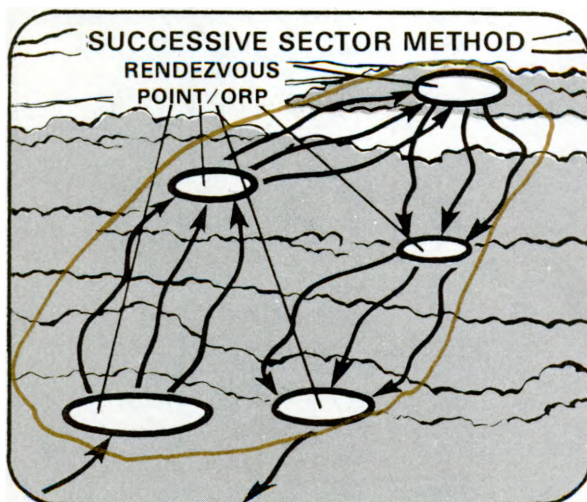
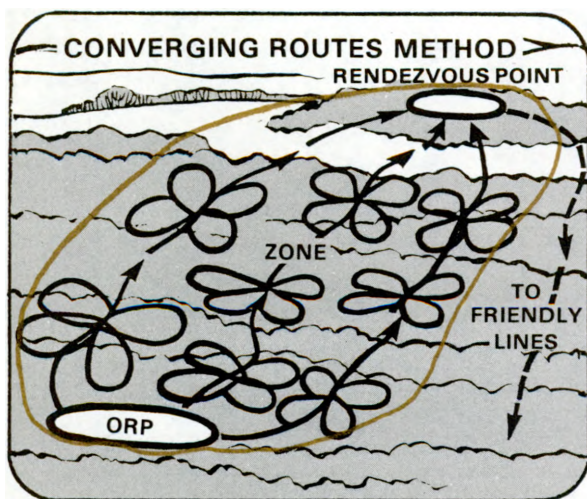
a reserve.) Additionally, the patrol leader sends the elements out on adjacent routes. This avoids having the patrol make contact in two different directions.

After the entire area (**fan**) has been reconnoitered, the information is disseminated. The patrol then moves to the next ORP. This action is repeated at each successive ORP.



**Converging routes method.** The patrol leader first selects an ORP, then selects reconnaissance routes through the zone and a rendezvous point. (The rendezvous point is a place where the patrol members link up after the reconnaissance.) Once the patrol arrives at the ORP, it halts and establishes security. The patrol leader confirms the patrol's location. He then designates —

- a reconnaissance route for each reconnaissance element,
- a location for the rendezvous point, and
- a linkup time at the rendezvous point.



A reconnaissance element is sent out on each route. The patrol leader normally moves with the center element. The elements normally reconnoiter their routes using the fan method. The entire patrol links up at the rendezvous point at the designated time.

The rendezvous point is secured the same way as the ORP. The information gained is disseminated in the rendezvous point. The patrol then returns to friendly lines.

**Successive sector method.** This method is basically a continuation of the converging routes method. The patrol leader selects an ORP and a series of reconnaissance routes and rendezvous points. The actions of the patrol from each ORP to each rendezvous point are the same as in the converging routes method. (Each rendezvous point becomes the ORP for the next phase.) When the patrol links up at a rendezvous point, the patrol leader again designates reconnaissance routes, a linkup time, and the next rendezvous point. This action continues until the entire zone has been reconnoitered. Once the reconnaissance is completed, the patrol returns to friendly lines.



## Section IV

# COMBAT PATROL

### INTRODUCTION

Combat patrols provide security, and harass, destroy, or capture enemy troops, equipment, and installations. There are three types of combat patrols — **raid**, **ambush**, and **security**.

### RAID PATROL

A raid is conducted by a combat patrol whose mission is to attack a position or installation for any or all of these purposes:

- **Destroy the position or installation.**
- **Destroy or capture troops or equipment.**
- **Liberate personnel.**

Surprise, firepower, and violent action are the keys to a raid.

- **Surprise is best achieved by attacking —**
  - **when the enemy may least expect an attack,**
  - **when visibility is poor, and**
  - **from an unexpected direction, e.g., approaching from the rear or through seemingly impassable terrain such as a swamp.**
- **Fire is concentrated at critical points to suppress the enemy.**
- **Violence is best achieved by gaining surprise, by using massed fire, and by attacking aggressively.**



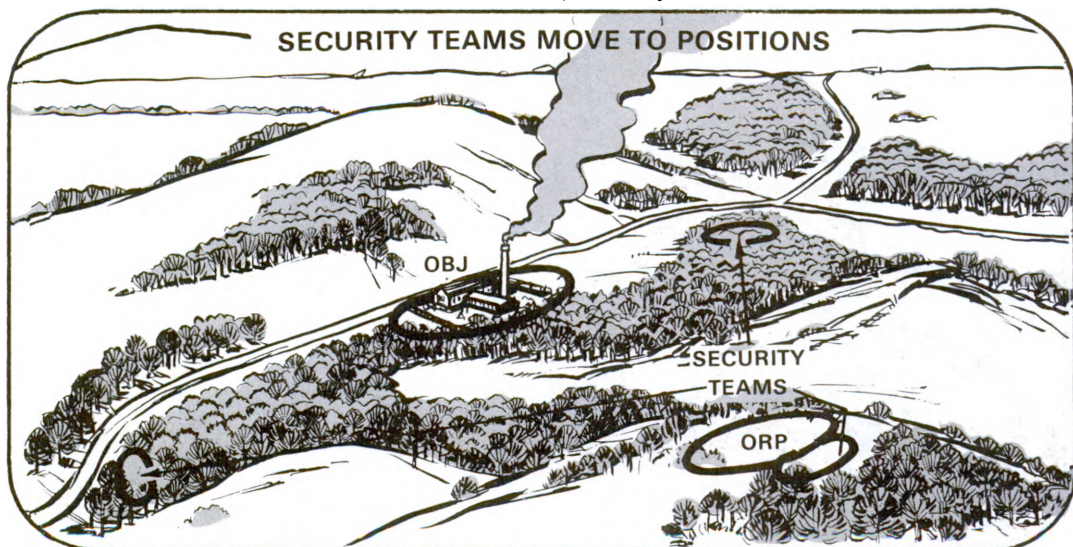
## CONDUCT OF A RAID

The patrol moves to the ORP as described for a reconnaissance patrol. The ORP is secured, the leaders' reconnaissance is conducted, and plans are confirmed. Elements and teams move to their positions. If possible, their movements are coordinated so that all reach their positions about the same time. This improves the patrol's capability for decisive action if it is detected by the enemy too soon.

**Security element.** The teams of the security element move to positions from which they can secure the ORP, give warning of enemy approach, block avenues of approach into the objective area, prevent enemy escape from the objective area, or perform any combination of these tasks within their capability.

As the assault and support elements move into position, the security element keeps the patrol leader informed of all enemy action. It shoots only if detected or on the patrol leader's order.

Once the assault starts, the security element prevents enemy entry into, or escape from, the objective area.



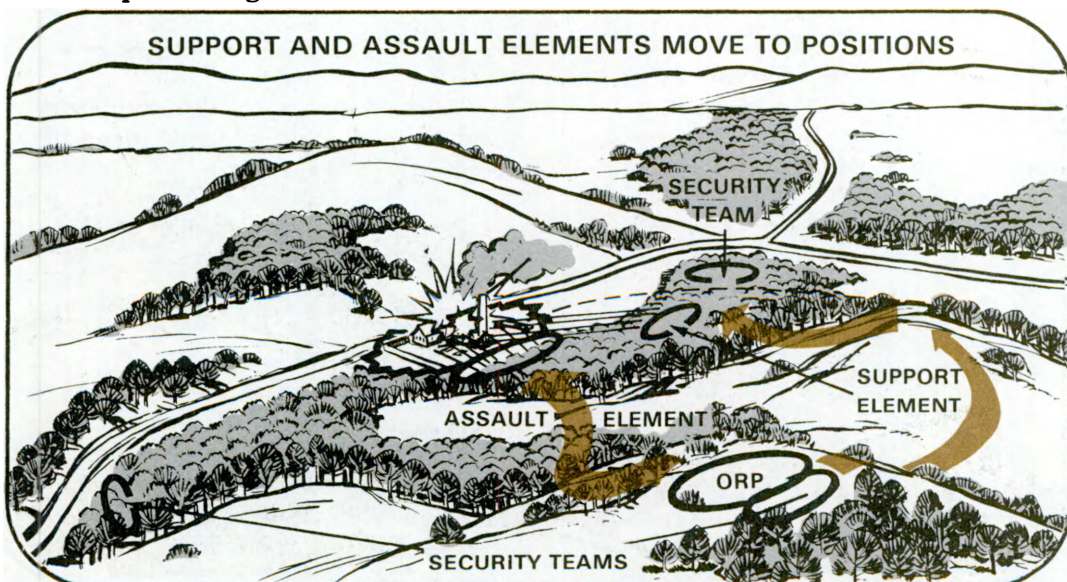


When the assault is completed, the security element covers the withdrawal of the assault and support elements to the ORP. It withdraws itself on order or on a prearranged signal.

**Support element.** The support element moves into position prior to the assault element, so that it can suppress the objective and shift fire when the assault starts. It normally covers the withdrawal of the assault element from the immediate area of the objective. It withdraws itself on oral order or on signal.

**Assault element.** The assault element deploys close enough to the objective to permit immediate assault if detected by the enemy. As supporting fire is lifted or shifted, the assault element assaults, seizes, and secures the objective. It protects demolition teams, search teams, and other teams while they work. On order or signal, the assault element withdraws to the ORP.

At the ORP, the patrol reorganizes and moves about 1,000 meters or one terrain feature away to disseminate information. During reorganization, ammunition is redistributed, casualties are treated, and status reports are given.



## AMBUSH PATROL

An ambush is a surprise attack from a concealed position on a moving or temporarily halted target. It may include an assault to close with and destroy the target, or the attack may be by fire only. It does not require that ground be seized and held. It enables a small unit with few weapons and little equipment to harass or destroy a larger, better armed unit.

## TYPES OF AMBUSH

A **point ambush** is one in which troops deploy to attack a single kill zone.

An **area ambush** is one in which troops are deployed as multiple **related** point ambushes.

## CATEGORIES OF AMBUSH

Ambushes are categorized as either hasty or deliberate.

A **hasty ambush** is an immediate action drill. (See section III.)

A **deliberate ambush** is planned as a specific action against a specific target. Detailed information on the target is required, e.g., size, organization, weapons and equipment carried, route and direction of movement, and times the target will reach or pass certain points on its route. **Deliberate ambushes** are planned when —

reliable information is received on the expected movement of a specific target; and

patrols, convoys, carrying parties, or similar targets establish patterns of size, time, and movement sufficient to permit detailed planning for their ambush.

## AMBUSH TERMS

Ambushes are described in the following terms:

### AMBUSH SITE

The terrain on which a point ambush is established.



### KILL ZONE

The part of an ambush site where fire is concentrated to isolate, trap, and destroy the target.



### ASSAULT ELEMENT

The part of the patrol that fires into and assaults the kill zone.



### SUPPORT ELEMENT

The part of the patrol that supports the assault element by firing into and around the kill zone.



### SECURITY ELEMENT

The early warning and security part of an ambush patrol. It secures the ORP, and blocks enemy avenues of approach into and out of the ambush site. It does this to prevent any enemy from getting into or out of the ambush site.



## FUNDAMENTALS OF A SUCCESSFUL AMBUSH

**Surprise.** Surprise must be achieved, else the attack is not an ambush. Surprise is a major feature that distinguishes an ambush from other forms of attack. It is surprise that allows the patrol to seize control of the situation. If **complete** surprise cannot be achieved, it must be so nearly complete that the target does not know of the ambush until too late for **effective** reaction. Surprise is achieved by good planning, preparation, and execution.

**Coordinated Fire.** All weapons, including mines and demolitions, must be positioned, and all fire, including that of supporting artillery and mortars, must be **coordinated to achieve —**

- the isolation of the kill zone to prevent escape or reinforcement; and
- the surprise delivery of a large volume of highly concentrated fire into the kill zone. This fire must inflict maximum damage so that, when required, the target can be quickly assaulted and destroyed.

**Control.** Close control must be maintained during movement to, occupation of, and withdrawal from the ambush site. Control is most critical at the time of the target's approach. **Control measures must provide for —**

- early warning of target approach,
- withholding of fire until the target has moved into the kill zone,
- opening fire at the proper time,
- initiation of proper action if the ambush is prematurely detected,

- lifting or shifting of supporting fire when the attack includes assault of the target, and
- timely and orderly withdrawal of the patrol to the ORP.

The men of the patrol must control themselves so that the ambush is not detected. They must have patience and self-discipline to stay still and quiet while waiting for the target to appear. When the target approaches, **they must resist the temptation to open fire before the signal is given.**

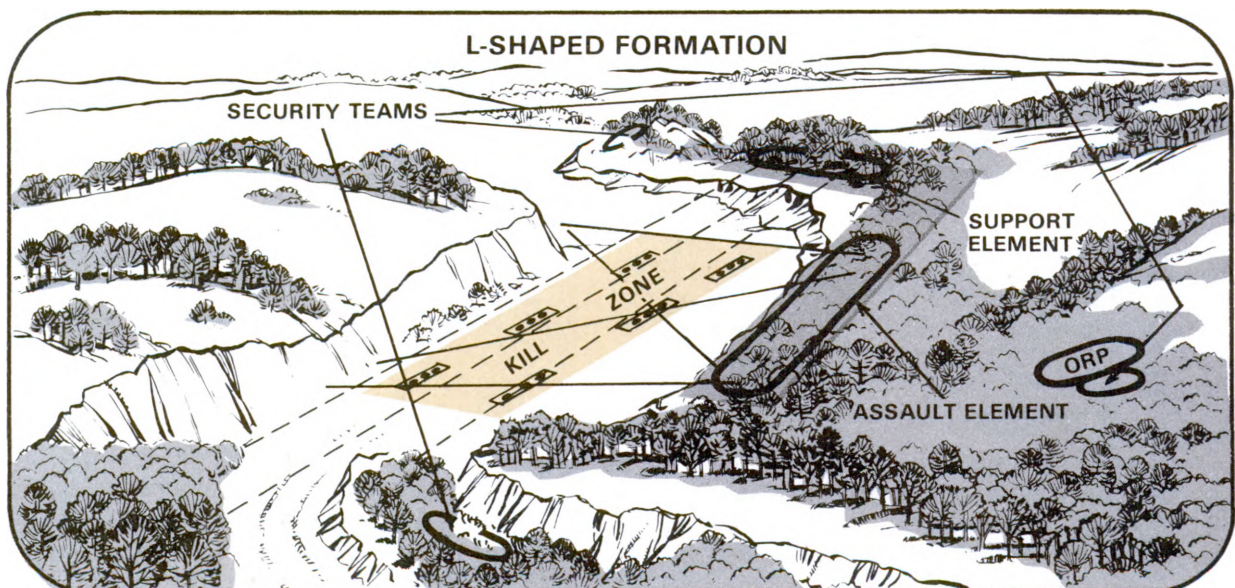
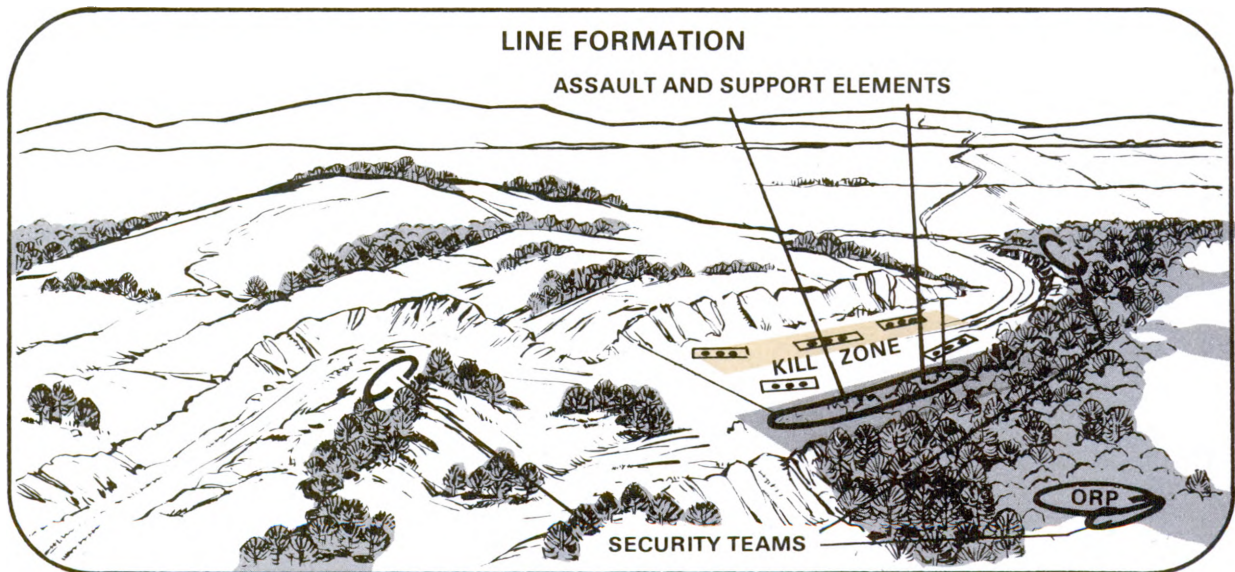
## AMBUSH FORMATIONS

**Line.** The assault and support elements are deployed generally parallel to the target's route of movement (**road, trail, stream**). This positions the assault and support elements parallel to the long axis of the kill zone and subjects the target to **flanking** fire. The size of the target which can be trapped in the kill zone is limited by the size area which the assault and security elements can cover with a great volume of fire. The target is trapped in the kill zone by natural obstacles, mines (**Claymore, antitank, antipersonnel**), explosives, and direct and indirect fire. A **disadvantage** of the line formation is that its target may be so dispersed that it is larger than the kill zone. The line formation is good in close terrain which restricts the target's maneuver, and in open terrain where one flank is blocked by natural obstacles or can be blocked by mines or explosives. Similar obstacles may be put between the assault and support elements and the kill zone to protect the patrol from the target's counterambush actions. When a patrol is deployed this way, access lanes are left through the obstacles so the target can be assaulted. An advantage of the line formation is the relative ease by which it can be controlled under all conditions of visibility.

**The L.** The L-shaped formation is a variation of the line formation. The long leg of the "L" (**assault element**) is parallel to the kill zone. This provides **flanking fire**. The short leg (**support element**) is at the end of, and at right angle to, the kill zone. This provides **enfilade fire**, which interlocks with fire from the other leg. This formation can be deployed on a straight stretch of a

trail, road, or stream, or at a sharp bend in a trail, road, or stream.

The line or the L-shaped formation should be used when feasible. If the situation does not allow for either of these formations, the patrol can be deployed in any configuration that fits the ground.





## SIGNALS

Audible and visual signals, such as whistles and flares, must be changed often to avoid setting patterns. Frequent use of the same signals may cause them to become known to the enemy. A target might recognize a signal and react in time to avoid the full effects of an ambush. For example, if a white star cluster is used all the time to signal withdrawal in a night ambush, an alert enemy might fire one and cause premature withdrawal of the patrol. There are normally four signals needed for the ambush.

(1) A signal by a security team to alert the patrol leader of the target's approach. This may be given by —

- **arm and hand,**
- **radio (a quiet voice message, or by a prearranged number of taps on the push-to-talk switch), or**
- **field phone (when there is no danger that wire between positions will expose the ambush).**

(2) A signal to start the ambush, given by the patrol leader or a man he designates. This must be a casualty-producing signal, such as machinegun fire or the detonation of mines or explosives.

(3) A signal to shift fire when the target is to be assaulted. Voice, whistles, or flares may be used. All fire must stop or be shifted at once so that the assault can be made before the target can react.

(4) A signal to withdraw. This, too, can be by voice, whistle, or flare.

## FIRE DISCIPLINE

This is a key part of the ambush. **Fire must be withheld until the signal is given, then delivered at once in the heaviest, most accurate volume possible.** Well-timed and well-aimed fire helps achieve surprise as well as the destruction of the target. When the target is to be assaulted, the lifting or shifting of fire must also be precise. If it is not, the assault is delayed, and the target has a chance to react.

## WITHDRAWAL TO THE ORP

Routes of withdrawal to the ORP are reconnoitered. Situation permitting, each man reconnoiters the route he is to use.

On signal, the patrol withdraws to the ORP, reorganizes, and starts its return march. At a set terrain feature or about 1,000 meters from the objective, the patrol will halt and disseminate information.

If the ambush fails and the patrol is pursued, withdrawal may be by bounds. Smoke should be used to help conceal the withdrawal. Mines previously set along the withdrawal routes can help stop the pursuit.

## CONDUCT OF THE POINT AMBUSH

A point ambush, by itself or as part of an area ambush, is positioned on its target's expected route of approach. The ambush formation is important because, to a great extent, it determines whether a point ambush can deliver the heavy volume of fire necessary to isolate, trap, and destroy the target.

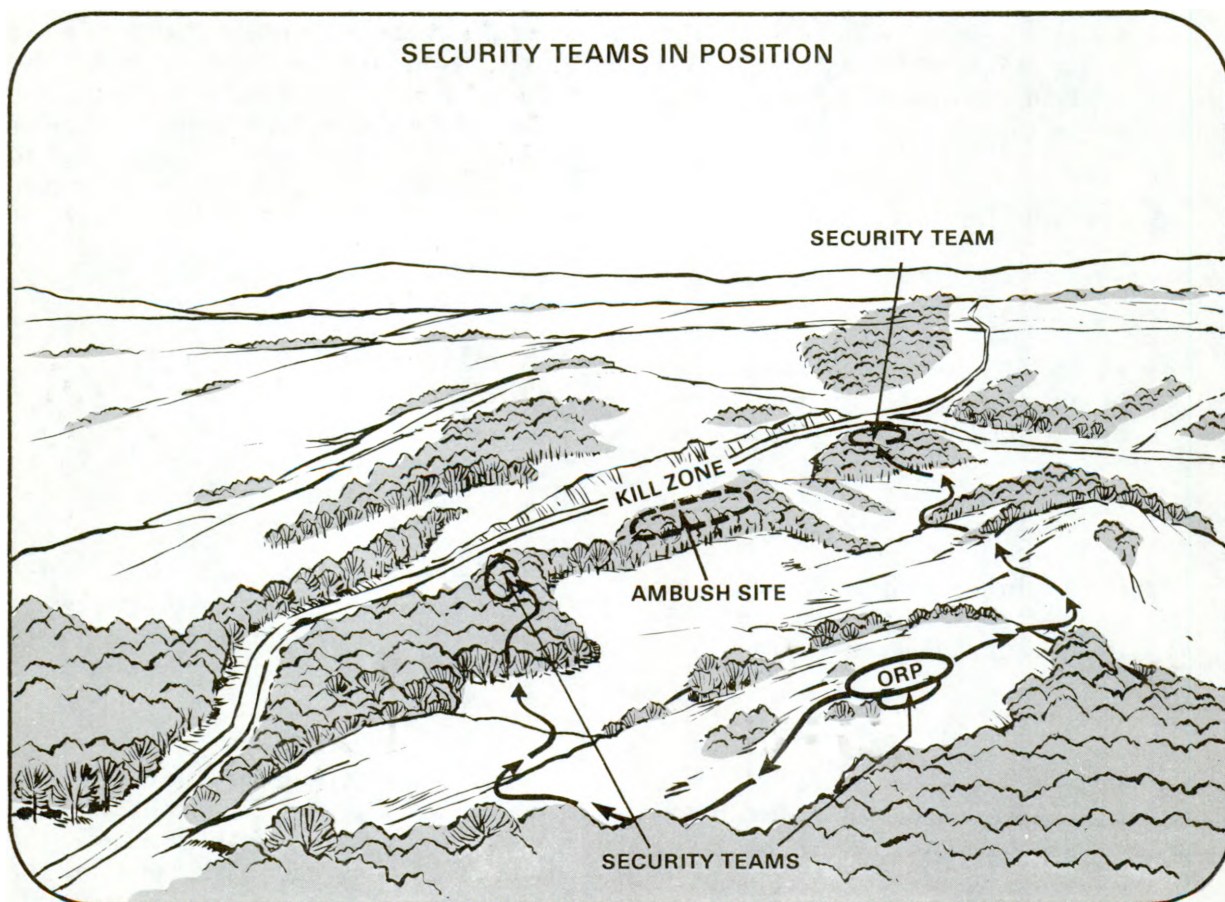
The formation to be used is based on the advantages and disadvantages of each possible formation in relation to the —

- terrain, visibility, troops available, weapons, and equipment;
- ease of control;

- target to be attacked; and
- overall combat situation.

The patrol halts at the ORP and establishes security. The patrol leader confirms the patrol's location. The patrol leader and element leaders conduct a leaders' reconnaissance of the objective area to confirm the plan and return to the ORP.

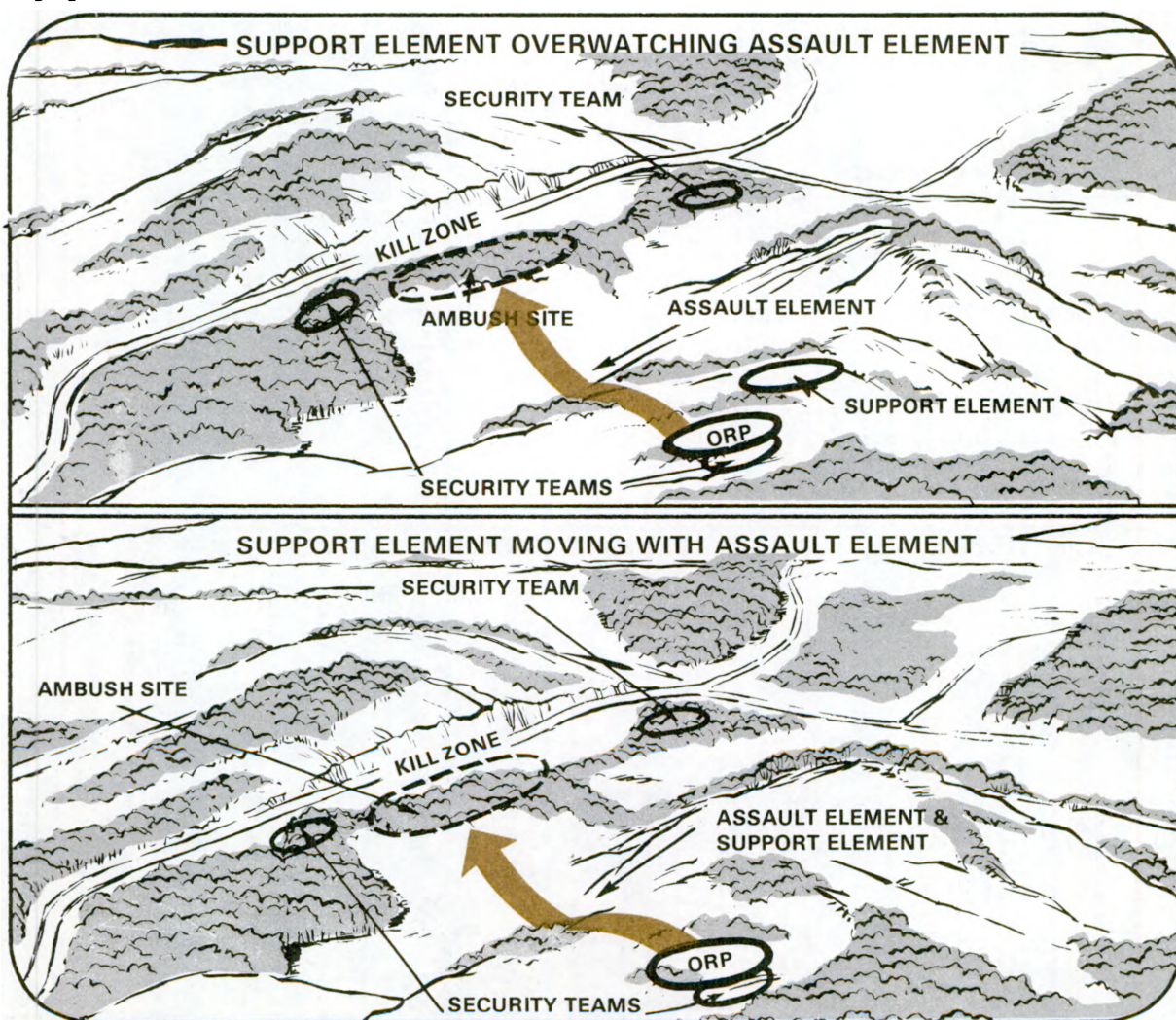
The security element leaves the ORP first. The teams of the security element move to positions from which they can secure the ORP and the flanks of the ambush site.





When the security teams are in position, the support and assault elements leave the ORP and occupy their positions. If there is a suitable position, the patrol leader may have the support element overwatch the assault element's move to the ambush site. If not, both elements leave the ORP at the same time.

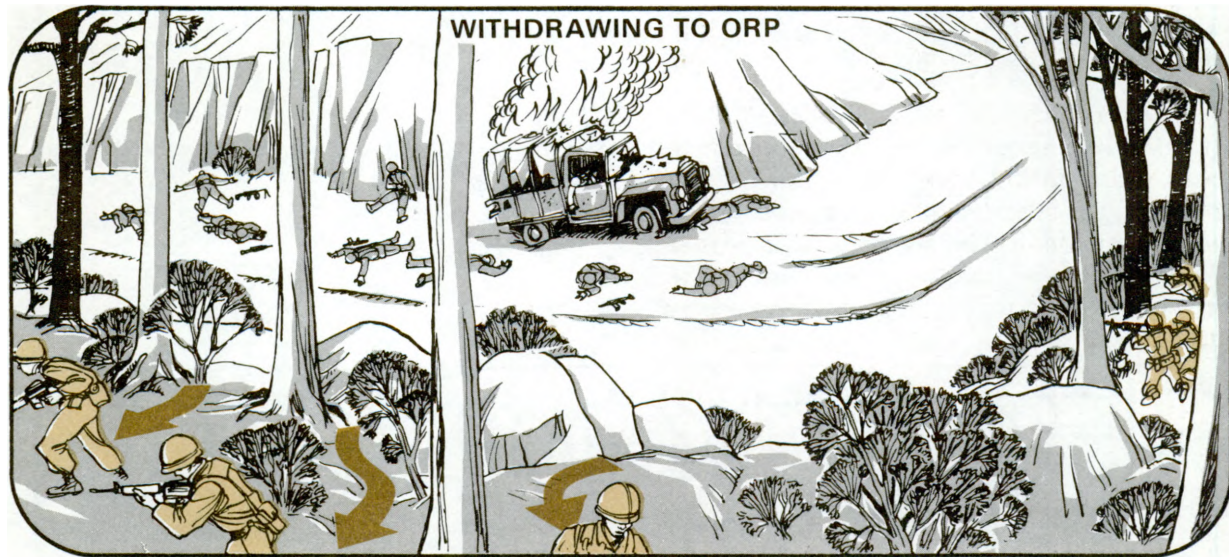
Once all elements are in position, the patrol awaits the target. When the target approaches, the security team spotting it alerts the patrol leader. The security team leader should report the direction of movement, the size of the target, and any special weapons or equipment carried.





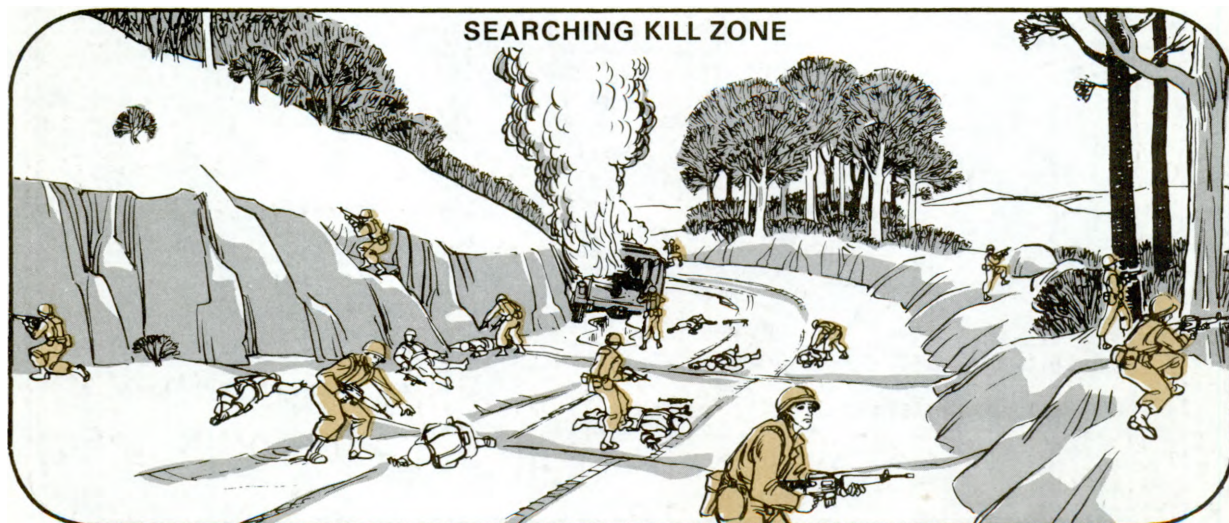
Upon receipt of the report, the patrol leader alerts the other elements. When the majority of the target is in the kill zone, the patrol leader gives the signal to start the ambush.

When the assault element is not required to assault the kill zone, and when the desired results have been achieved, the patrol leader gives the signal to withdraw to the ORP.



When the assault element is required to assault the kill zone, the patrol leader gives the signal to lift or shift fire. This is also the signal for the assault to start. When the assault element has finished its mission in the kill zone, the patrol leader gives the signal to withdraw to the ORP.

On the signal to withdraw, all elements move back to the ORP. Equipment and personnel are accounted for, and the patrol moves out to a suitable location to disseminate information. The patrol then returns to friendly lines.



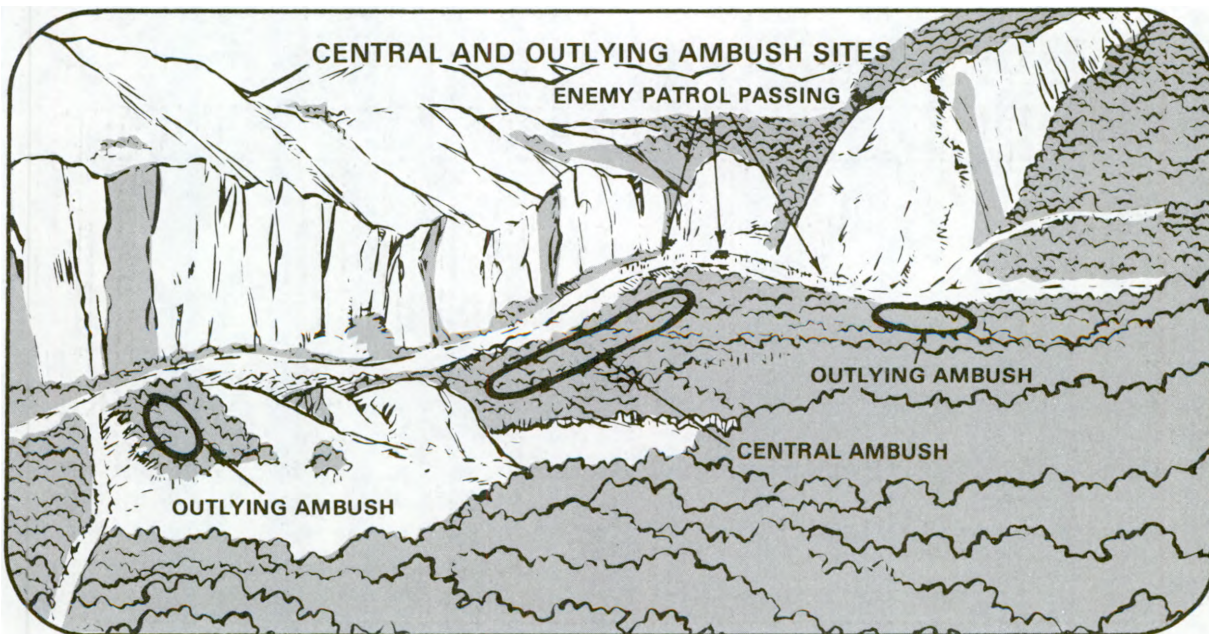


## CONDUCT OF AREA AMBUSH

An area ambush is not normally conducted by a unit smaller than a platoon. The area ambush works best where enemy movement is largely restricted to trails or streams. The area selected should offer several suitable point ambush sites. The platoon leader must select one central ambush site around which he can organize the outlying ambushes. Squad-size patrols occupy the ambush sites.

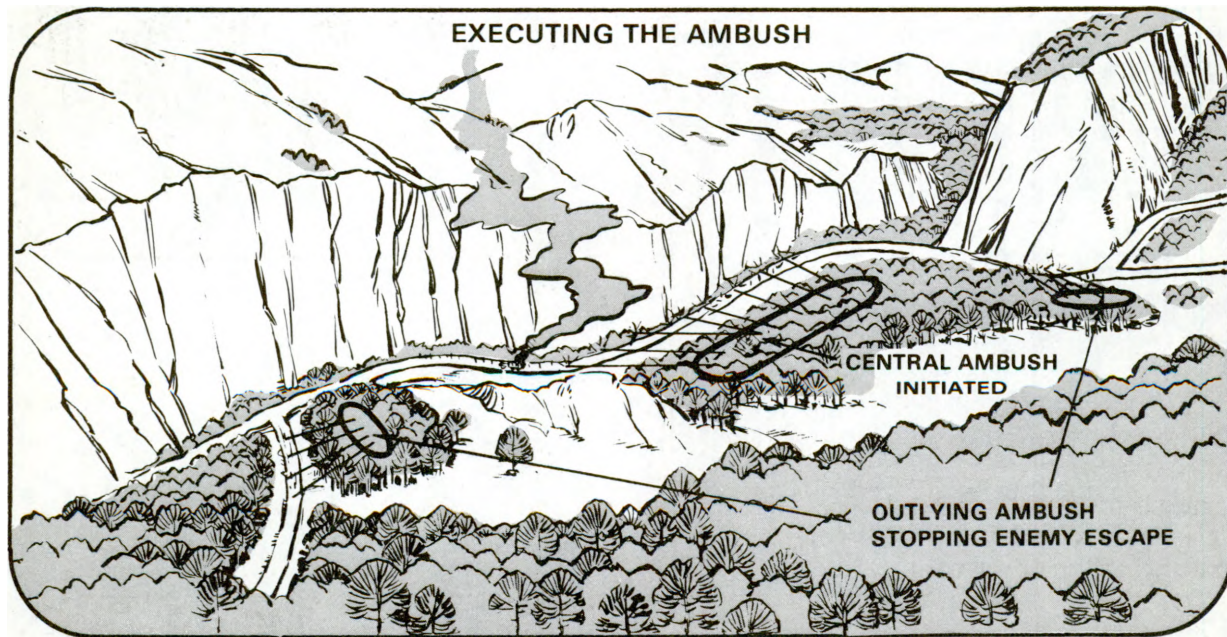
Once the central ambush site has been selected, the platoon leader must determine the enemy's possible avenues of approach to and escape from this site. He then selects and assigns ambush sites to cover these avenues. The ambush sites are then established as explained for a point ambush.

Once the sites have been established, all enemy traffic going toward or away from the central ambush site is reported to the platoon leader — who is at the central ambush site. The outlying ambushes should allow the enemy to pass through their kill zones until the central ambush has been initiated.



Once the central ambush is initiated, the outlying ambushes prevent any enemy from escaping or entering the area.

The actual conduct of the ambushes is the same as that discussed for the point ambush.



## SQUAD ANTIARMOR AMBUSH

The purpose of an antiarmor ambush is to destroy one or two armored vehicles.

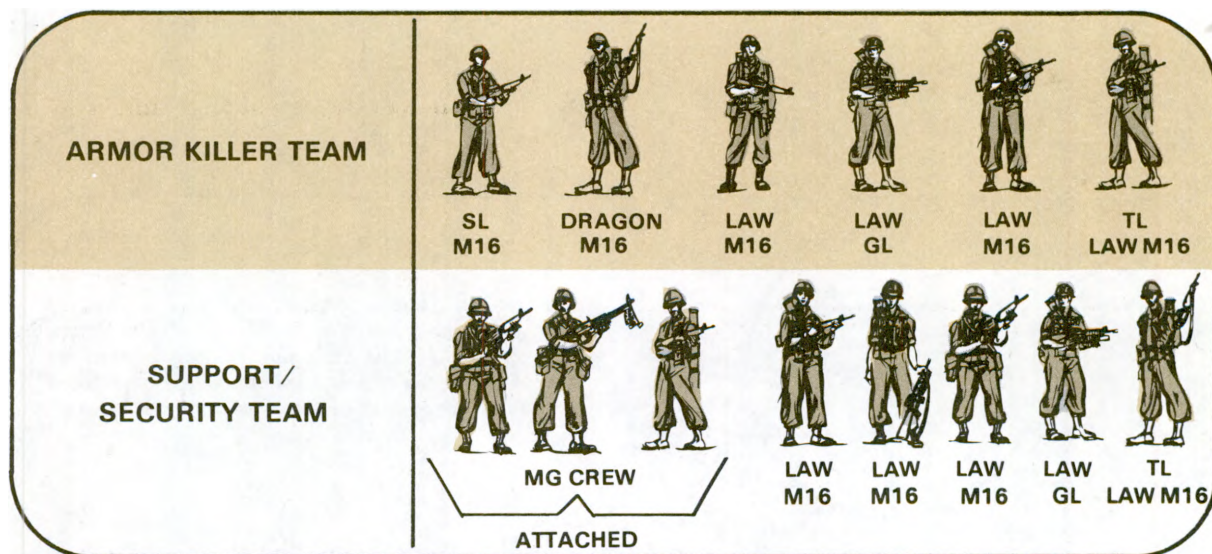
A squad is a good size unit for an antiarmor ambush. Some times, there may be a need for fire team antiarmor ambushes.

The leader organizes an **armor-killer team** and a **support/security team**.

The **armor-killer team** fires into the kill zone. Normally, the Dragon is the main weapon of this team. LAWs and machine-guns may be used to supplement its fire. Where fields of fire are less than 100 meters, LAWs may be the main antiarmor weapon. In that case, the armor-killer team must mass LAW fire into the kill zone to make sure the target vehicle is killed.



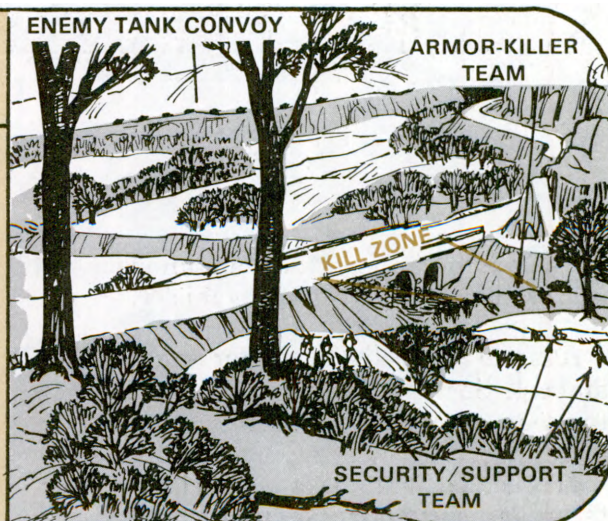
The **support/security team** provides support and security for the squad and should be positioned where it can cover the withdrawal of the armor-killer team.



**Select the Exact Ambush Site.** The platoon leader will give the general location of the ambush site. The squad leader must pick the best place to put his squad. The squad position is based primarily on the location of the kill zone. When the squad arrives at the ambush site, the leader reconnoiters and picks the kill zone and positions for his teams.

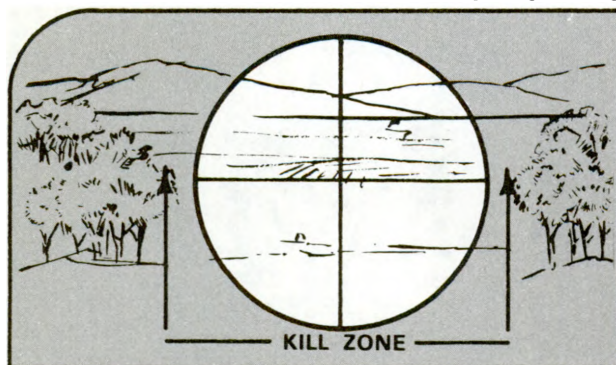
A good kill zone has these characteristics:

- Enemy vehicles are likely to enter.
- The terrain will make it hard for other vehicles to bypass a destroyed vehicle and assault the squad.
- There is a natural obstacle between the kill zone and the squad. If there are no natural obstacles and if there is time, the squad may install some mines to help separate the squad from the enemy.





# KILL ZONE CHARACTERISTICS CONTINUED



- The kill zone is large enough so the Dragon gunner can see, fire, track, and hit the target vehicle. Usually, if the gunner looks through his sights at the kill zone and there are no obstructions in his field of view, the kill zone is large enough.



- The kill zone lets the Dragon hit the flank of the target vehicle.



- The target vehicle should be isolated and not have other enemy vehicles overwatching it.



**Select Firing Positions.** Having selected a kill zone and ambush site, the squad leader picks positions for the teams. Good positions have —

- good fields of fire into the kill zone,
- cover and concealment,
- an obstacle between the teams and the kill zone, and
- covered and concealed withdrawal routes.

**Set up the Ambush.** After choosing the kill zone and the team's positions, the squad leader positions his men and equipment.

The support/security team is positioned first. It is important to have security on both flanks. These men may have to be repositioned after the armor-killer team sets up, but when setting up an ambush, the leader must post security first.

As soon as the ambush site is secure, the armor-killer team sets up so that it can cover the kill zone. The squad leader and the Dragon gunner pick the exact firing position. Once the Dragon is in position, the machinegun is positioned where it can cover the kill zone.

**Improve the Ambush Site.** With time, the squad improves the ambush site.

■ Fighting positions are dug and improved.

■ Claymores, explosives, or smoke pots can be employed to stop the enemy and conceal the withdrawal of the squad.

■ Mechanically detonated mines or shaped charges can be employed in the kill zone.

**Conduct the Ambush.** The squad leader positions himself where he can best control his men and weapons — normally near the Dragon. When the enemy enters the kill zone, the leader picks the target and springs the ambush by telling the Dragon gunner at which target and when to fire. When possible, the first and last vehicles should be destroyed to keep the other vehicles from escaping.

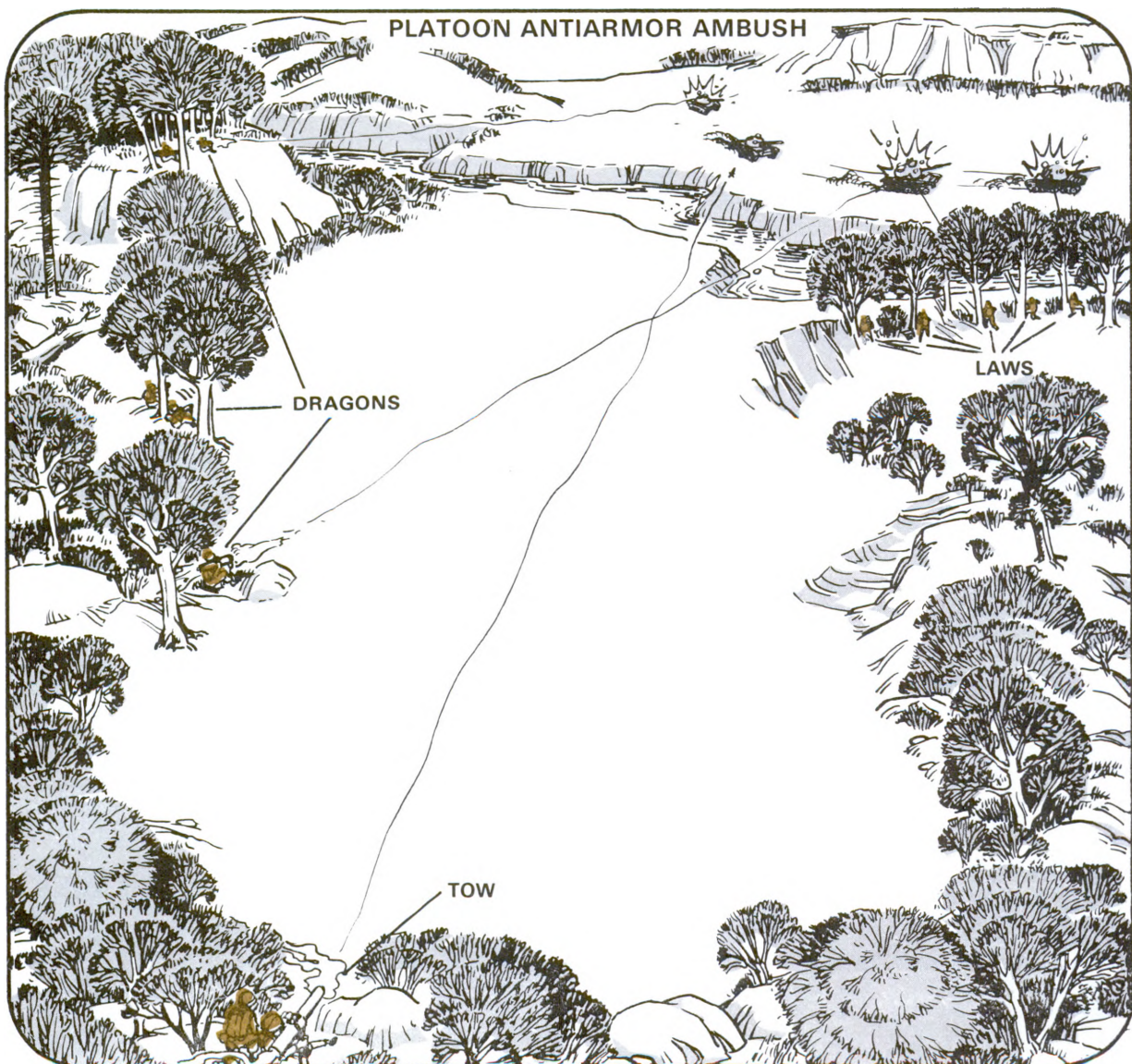
The rest of the squad opens fire when the Dragon round impacts. Indirect fire should fall in the kill zone as soon as possible after the Dragon impacts. If the kill zone is in range, each man in the squad (**except the Dragon gunner and machinegunners**) fires a LAW. The machinegunner fires into the kill zone.

**Withdraw the Squad.** Because of the speed with which other enemy armored vehicles may react, and the responsiveness of enemy artillery, the squad must spring the ambush, break contact, and get out of the area quickly. When mounted enemy infantrymen approach the kill zone, their carriers are treated like light tanks. They should be allowed to get close, and then killed, one at a time. If mounted infantry is mixed with tanks, the tanks should be the target for the Dragon. After the Dragon is fired, the enemy's carriers are hit with LAWs, grenade launcher HEDP rounds, and machineguns.

If the enemy troops on foot precede the armored vehicles into the kill zone, the squad leader must decide if they pose a threat to the ambush. If they can outflank his squad before the enemy armor can be hit, he may decide to withdraw without making contact and to try to set up another ambush somewhere else. If the enemy infantry is an immediate threat to the squad or appears to be ready to find or trip any mechanical devices, the ambush is initiated with machineguns. All action against enemy infantry is just as was planned and rehearsed for action against armor, except that the antiarmor weapons do not fire.

## PLATOON ANTIARMOR AMBUSH

A platoon can also conduct an antiarmor ambush. The aim of this type ambush is to destroy a number of enemy armored vehicles. It is used against enemy reconnaissance and lead units. The platoon lets the enemy get close enough to be killed by massed fire. For this, the platoon may have TOWs attached. The kill zone is larger in order to have space for more target vehicles.





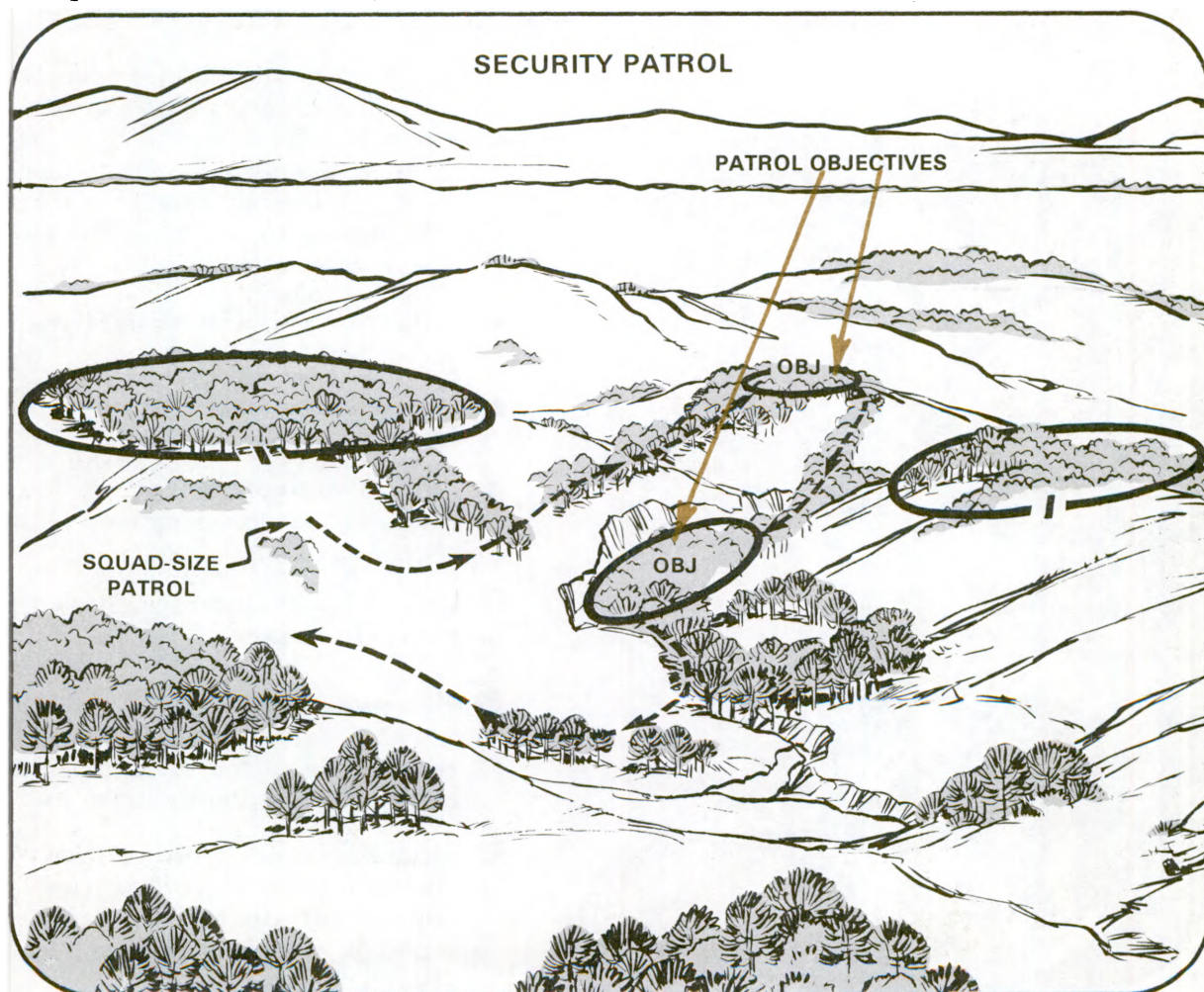
## SECURITY PATROLS

Some combat patrols provide security. These patrols are often organized as reconnaissance patrols. A squad-size patrol normally has a reconnaissance element and a security element. A fire team-size patrol normally operates as an R&S patrol. It provides its own security while reconnoitering without being organized into elements.

These patrols prevent surprise attacks on moving units by screening their flanks. They also reconnoiter areas through which units will pass and the routes they will use. They

prevent infiltration and surprise attacks on stationary units by screening their front and flanks, and by reconnoitering gaps between the units and around their positions.

**Conduct of the Patrol.** The patrol leader picks a series of objectives in the area in which the patrol must reconnoiter. The patrol moves from objective to objective until the area has been reconnoitered. If the patrol makes contact, it reports to the commander and attacks or withdraws according to the commander's instructions.



## Section V

# PATROL BASES

### INTRODUCTION

A **patrol base** is a position set up when a patrol halts for an extended period. When a patrol must halt for a long time in a place not protected by friendly troops, it must take active and passive security measures.

Having a patrol base is usually part of the patrol plan but it may be an on-the-spot decision.

The time a patrol base may be occupied depends on the need for secrecy. It should not, however, be occupied for more than 24 hours except in an emergency. A patrol base is occupied only as long as necessary for its purpose. A patrol should not use the same patrol base more than once.

Patrol bases are used when there is a need to —

- stop all movement to avoid detection;
- hide a patrol during a long, detailed reconnaissance of an objective area;
- eat, clean weapons and equipment, and rest;
- plan and issue orders;
- reorganize after a patrol has infiltrated an enemy area; and
- have a base from which to conduct several consecutive or concurrent operations such as ambush, raid, reconnaissance, or security patrols.





## SELECTION

The site of a patrol base is usually picked from a map or aerial reconnaissance during planning. A patrol base site picked by map or aerial reconnaissance is tentative. Its suitability must be confirmed, and it must be secured before it is occupied.

Plans to establish a patrol base must include selection of an **alternate patrol base site**. The alternate site is used if the initial site is unsuitable or if the patrol is required unexpectedly to evacuate the initial patrol base. It is usually desirable to reconnoiter the alternate site and keep it under watch until occupied or until no longer needed.

## CONSIDERATIONS

Planning for a patrol base must include consideration of the mission and security measures, both passive and active.

**Mission.** A patrol base must be located so that it allows the patrol to accomplish its mission.

### Security Measures.

The patrol leader selects —

- terrain which would probably be considered of little tactical value by the enemy;
- difficult terrain which would impede foot movement;
- an area of dense vegetation, preferably bushes and trees that spread close to the ground; and
- an area near a source of water.

He plans for —

OPs;

- communications with OPs;
- defense of the patrol base;
- withdrawal from the patrol base, to include withdrawal routes and a rally point, or rendezvous point, or alternate patrol base;
- a security system to make sure that necessary troops are awake at all times;
- enforcement of camouflage, noise, and light discipline; and
- the conduct of necessary activities with minimum movement and noise.

He avoids —

- known or suspected enemy positions;
- built-up areas;
- ridges and hilltops, except as necessary for maintaining communications;
- roads, trails, wet areas, steep slopes; and
- small valleys.

## OCCUPATION OF A PATROL BASE

Before moving into a patrol base, it is reconnoitered and secured. Once secured, a patrol base is occupied by moving to the selected site, deploying into it, and establishing a perimeter defense. The following is an example of a patrol occupying a patrol base.

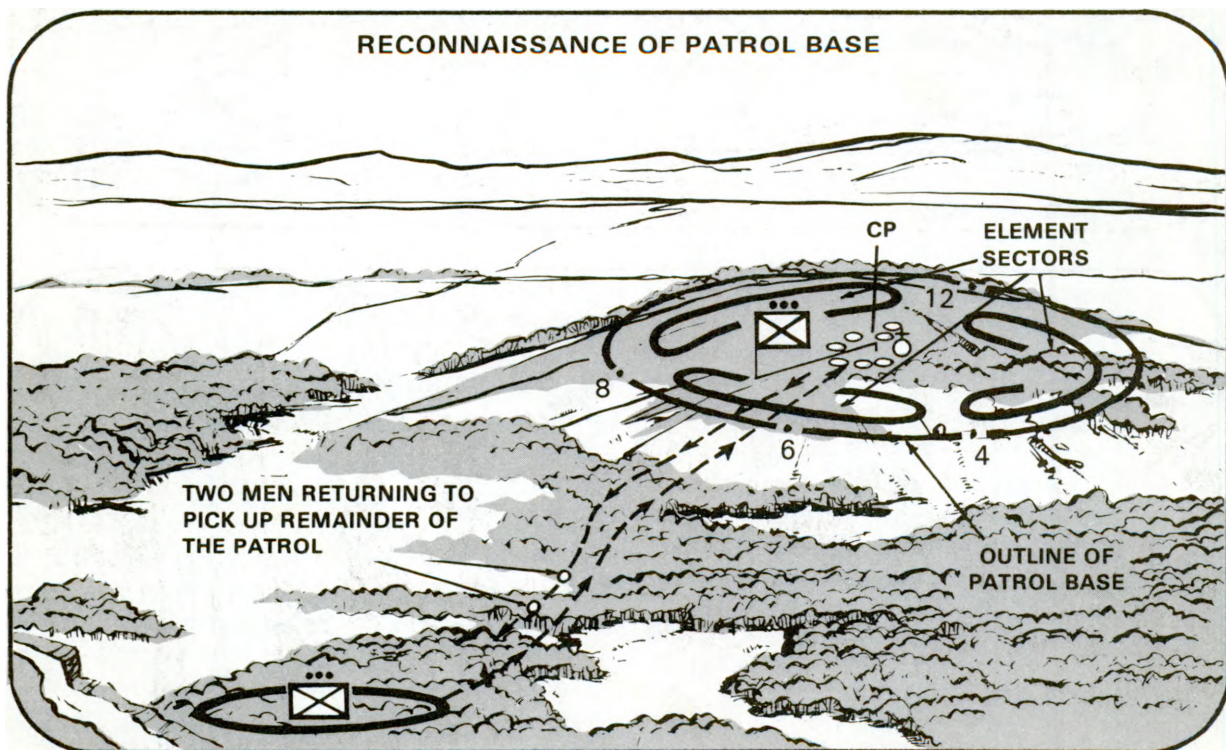
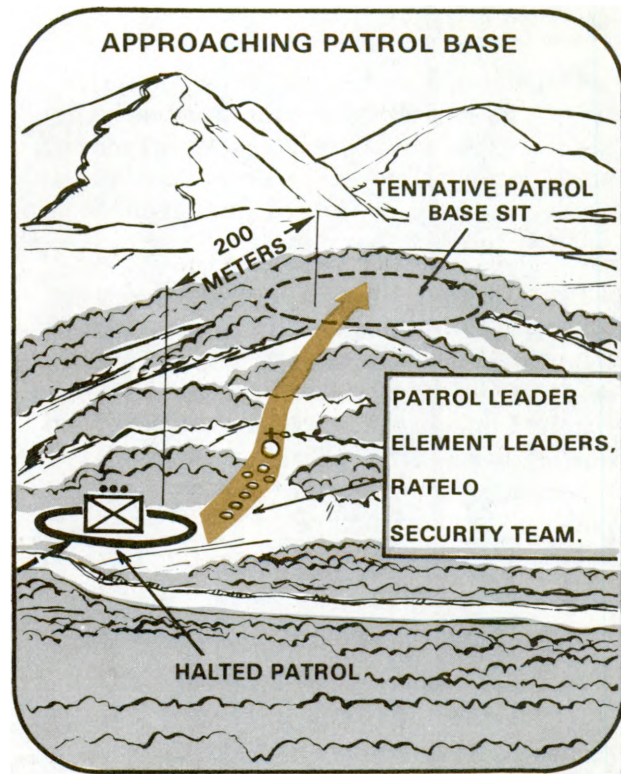
## APPROACH

The patrol halts within 200 meters of the tentative patrol base site. Security is posted. The element leaders, radiotelephone operator (RATELO), and a security team join the patrol leader and move forward to reconnoiter the site.

## RECONNAISSANCE

The patrol leader designates the point of entry into the patrol base site as 6 o'clock. He moves to and designates the center of the base as the patrol CP.

The element leaders reconnoiter the sectors assigned to them for suitability, and then return to the CP. The elements would have been given their sectors in the operation order. After the reconnaissance, the patrol leader sends two men back to bring the remainder of the patrol forward.

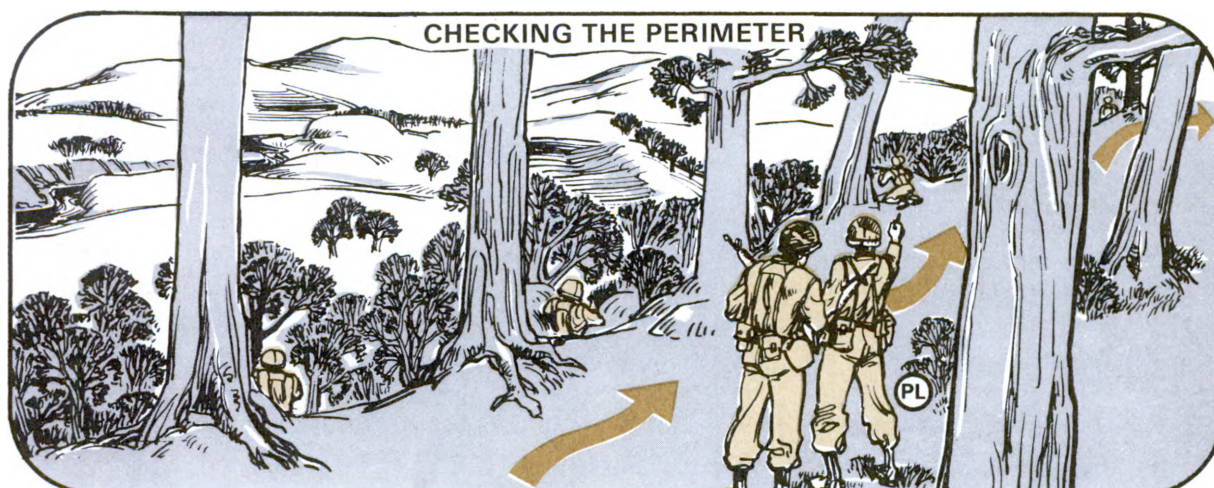
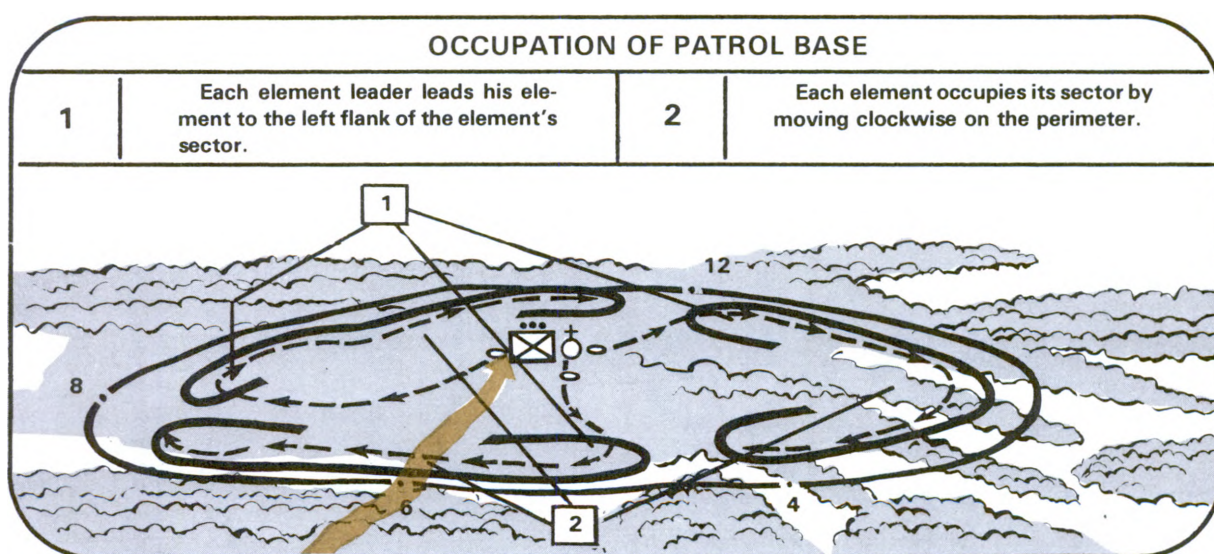




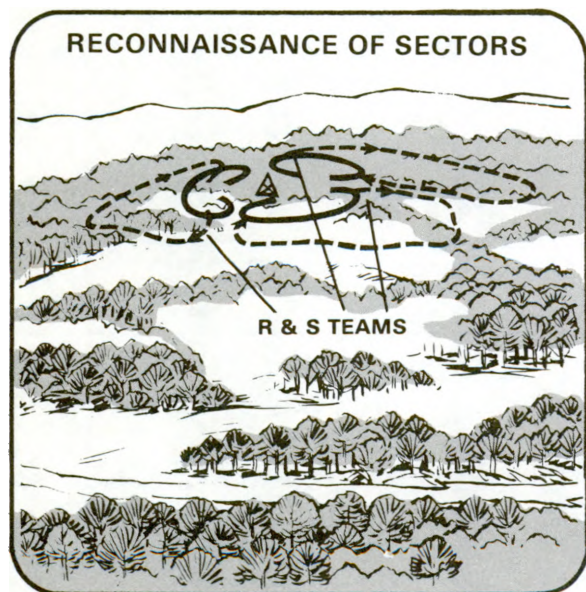
## OCCUPATION

The patrol enters the base in single file. It moves to the center of the base. Designated men remove signs of the patrol's entry into the area.

The patrol leader checks the perimeter by meeting each element leader at the left flank of his respective sector. Together, they move clockwise to the end of that sector, making changes as needed. At the end of the sector, the patrol leader meets the element leader of the next sector and repeats the inspection until he has checked his entire perimeter.



Each element leader sends out an R&S team to reconnoiter forward of the element's sector. The team moves a set distance out from the left flank of the sector, moves clockwise to the right limit of the sector, and reenters at the right flank of the sector. It reports signs of enemy activity, suitable OP locations, possible rally points, and withdrawal routes.



The patrol leader designates withdrawal routes and a rally point outside the base for use in case the patrol is dispersed unexpectedly.

Each element puts out an OP and establishes communications with the patrol CP.

## ACTIONS IN A PATROL BASE

**Security.** This must be a patrol's first priority. Only one point of entry and exit is used. This point is camouflaged and guarded at all times.

Only necessary movement should be permitted, both inside and outside the patrol base.

Whether day or night, only necessary fires are built. They must be kept small and, if possible, smokeless. Fires are built in pits and, if built at night, are covered and shielded.

Noisy work, such as cutting branches, is done only at set times. Such work is done as soon as possible after occupation but never at night or in the quiet periods of early morning and late evening. Noisy work should be done when other noise (**sounds of aircraft, artillery, or distant battle**) will cover it.

A **stand-to** is held both morning and evening to insure that every man adjusts to the changing light and noise conditions, and is dressed, equipped, and ready for action. The stand-to should start before first light in the morning and continue until after light. It should start before dark in the evening and last until after dark. The starting and ending times should vary to prevent establishing a pattern but the stand-to must last long enough to accomplish its purpose.

**Defense.** Defensive measures must be planned but a patrol base is usually defended only when evacuation is not possible. Complete fighting positions are not built. Camouflage and concealment are stressed.

A fire plan is made. Early warning devices may be put on avenues of approach. If the base definitely must be defended, mines and tripflares should be put on avenues of approach and in places which cannot be covered by fire. The value of these devices must be weighed against the fact that their discovery could compromise the patrol base.

A withdrawal plan is also made. If the patrol is forced to leave the patrol base, it rallies at either a rally point, a rendezvous point, or an alternate patrol base. Each patrol member must know where to withdraw to.



**Communications.** Communications are established with higher HQ, OPs, and within the patrol.

Radios are a good means, but must be closely controlled because of the enemy's ability to monitor the patrol's transmissions and possibly use radio direction finders to find the patrol base.

Wire should be used within the patrol base if its bulk and weight and the time needed to lay and pick it up do not hinder the patrol's ability to accomplish its mission.

Tug or pull wires may be used for signaling. They are quiet and reduce radio or telephone traffic.

**Maintenance.** Weapons and equipment are maintained.

**Sanitation and Personal Hygiene.** In daylight, catholes outside the perimeter are used. The user must be guarded. At night, catholes must be inside the perimeter. Men wash, shave, and brush their teeth on a regular basis. Trash is buried in a concealed site or is carried with the patrol.

**Eating.** Men take turns eating. No more than half of the men should eat at a time, in order to have the other half alert and ready to fight.

**Water.** If details are sent to get water, guards must also be sent to protect them. No more than two trips to the source should be made in a 24-hour period.

**Rest.** Rest and sleep are permitted in special periods only after all work has been done. As in eating, men take turns resting. Security must be maintained.

**Planning.** Leaders should use the time spent in a patrol base to continue to plan and prepare for the mission.

**Departure.** All signs of the patrol's presence are removed or concealed. This may help keep the patrol's presence secret and prevent pursuit.





## APPENDIX A

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 7-7 ..... The Mechanized Infantry Platoon and Squad  
 7-10 ..... The Rifle Company Platoons and Squads  
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 7-11B3 ..... Soldier's Manual: 11B, Infantryman (Skill Level 3)  
 7-11B4 ..... Soldier's Manual: 11B, Infantryman (Skill Level 4)  
 7-11C1/2 ..... Soldier's Manual: 11C, Indirect Fire Infantryman (Skill Level 1/2)  
 7-11C3 ..... Soldier's Manual: 11C, Indirect Fire Infantryman (Skill Level 3)  
 7-11C4 ..... Soldier's Manual: 11C, Indirect Fire Infantryman (Skill Level 4)  
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- 21-11 ..... First Aid for Soldiers
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- 21-40 ..... NBC (Nuclear, Biological and Chemical) Defense
- 21-41 ..... Individual Defense: Nuclear, Biological, Chemical
- 21-60 ..... Visual Signals
- 21-75 ..... Combat Training of the Individual Soldier and Patrolling
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- 23-11 ..... 90-mm Recoilless Rifle, M67
- 23-23 ..... Antipersonnel Mine M18A1 and M18 (Claymore)
- 23-30 ..... Grenades and Pyrotechnic Signals
- 23-31 ..... 40-mm Grenade Launchers M203 and M79
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- (C) BUL 1 ..... Range and Lethality of US and Soviet Antiarmor Weapons (U)
- (C) BUL 2 ..... Soviet ATGMs: Capabilities and Countermeasures (U)
- (C) BUL 3 ..... The Soviet RPG-7 Anti-tank Grenade Launcher (U)
- BUL 5 ..... LAW
- BUL 6 ..... Countersurveillance and Camouflage
- BUL 7 ..... Weapons, Tactics, and Training: The BMP; Capabilities and Limitations
- BUL 9 ..... Infantry Fighting Positions

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1355-1-R

Hasty Protective Minefield Record

**GRAPHICS TRAINING AIDS**

5-10-27

Mine Card



## APPENDIX B

**COVER, CONCEALMENT,  
AND CAMOUFLAGE**

Each soldier must use terrain to gain cover and concealment. He must supplement natural cover and concealment with camouflage.

**COVER** is protection from the fire of enemy weapons. It may be natural or manmade.



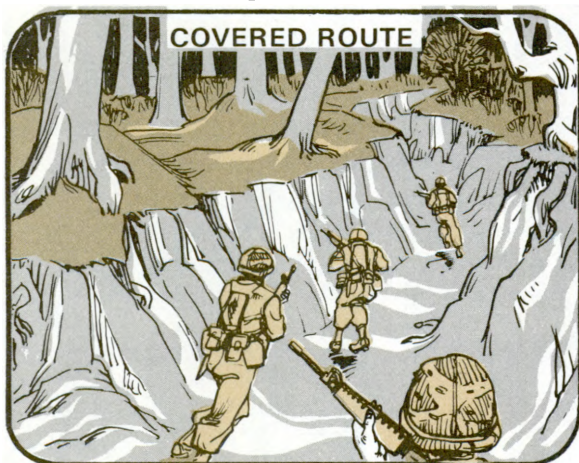
Natural cover includes logs, trees, stumps, ravines, hollows, reverse slopes, etc. Manmade cover includes fighting positions, trenches, walls, rubble, abandoned equipment, and craters. Even the smallest depression or fold in the ground gives some cover. Soldiers must look for and use every bit of cover the terrain offers.

When the enemy approaches a defending platoon's position and brings it under direct and indirect fire, there must be cover to protect the troops. Natural cover is best as it is most difficult for the enemy to spot.

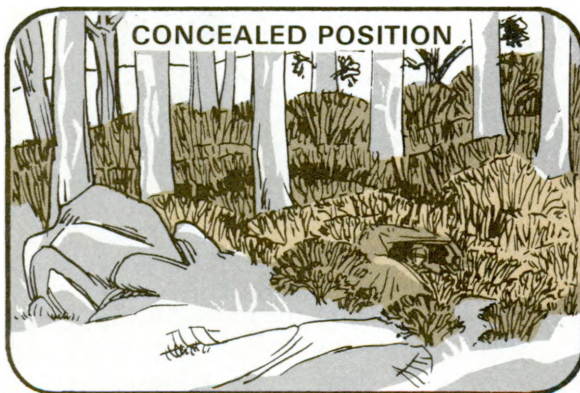
To increase the protection afforded by natural cover against enemy direct and indirect fire, soldiers build fighting positions. The type and extent of preparation will depend on the mission and the length of stay.

The soldier prepares a simple prone shelter first; then, as time allows, he prepares a more fully developed position, up to a completed fighting position with overhead cover and trenches connecting it with other positions.

When moving, soldiers use a route which puts cover between the friendly unit and the places where the enemy is known or thought to be. They use ravines, gullies, hills, wooded areas, and other natural cover to keep the enemy from seeing and shooting at them. They avoid open fields. Units avoid sky-lining on hills and ridges. In a desert, rock formations and depressions are cover.



**CONCEALMENT** is anything that hides a soldier, unit, position, or equipment from enemy observation. Discipline in the control of camouflage, light, noise, and movement must be enforced. Well-hidden fighting positions help conceal a unit's location from the enemy. The best way to use natural concealment is to refrain from disturbing it when the unit moves into an area. Darkness alone does not hide a unit from an enemy who has night vision and other detection devices.



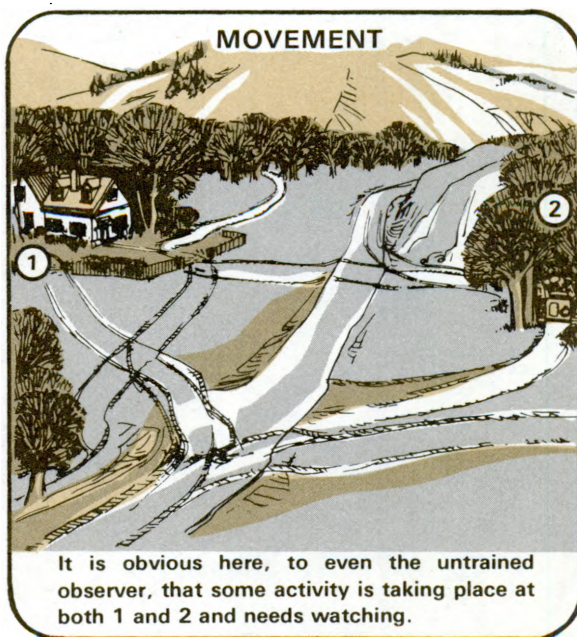
**CAMOUFLAGE** involves using the environment and other natural and manmade material. Used well, it reduces the chance of detection by the enemy. If camouflage material is needed, it should be brought from outside the platoon's position. It can be branches, bushes, leaves, and grass. It can be attached to vehicles with old communications wire. Live foliage is best because dead foliage and manmade material may not blend with surroundings.

Good camouflage will conceal places which at first seem open and exposed.

## CAMOUFLAGE CONSIDERATIONS

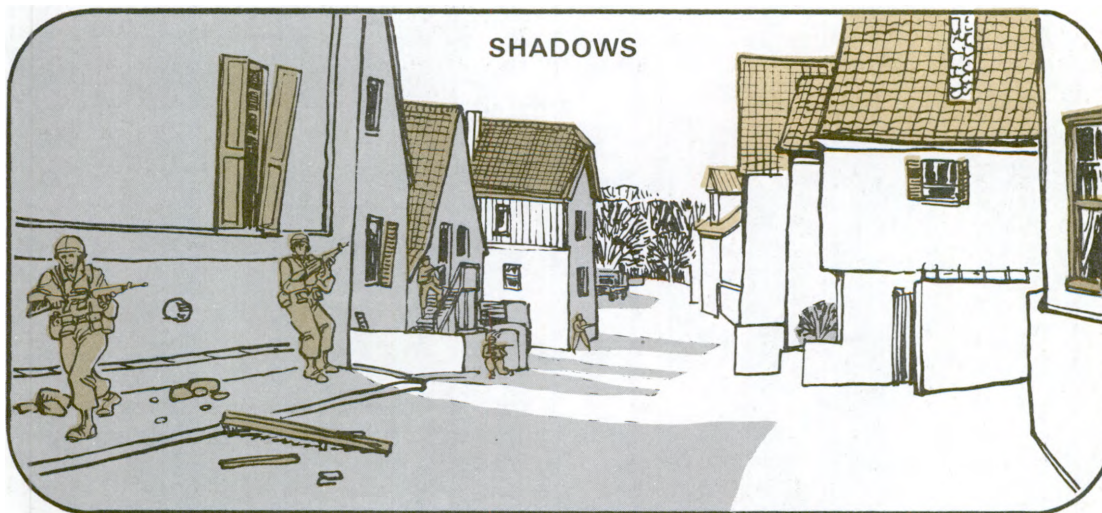
Here are the things the enemy will look for in trying to find friendly positions.

**Movement** draws attention. An observer will catch movement in his field of view. Moves, such as arm-and-hand signals, can be seen by the naked eye at long ranges. A comparison of aerial photos taken of the same area at different times can reveal movement of troops and vehicles and will help the enemy find targets.

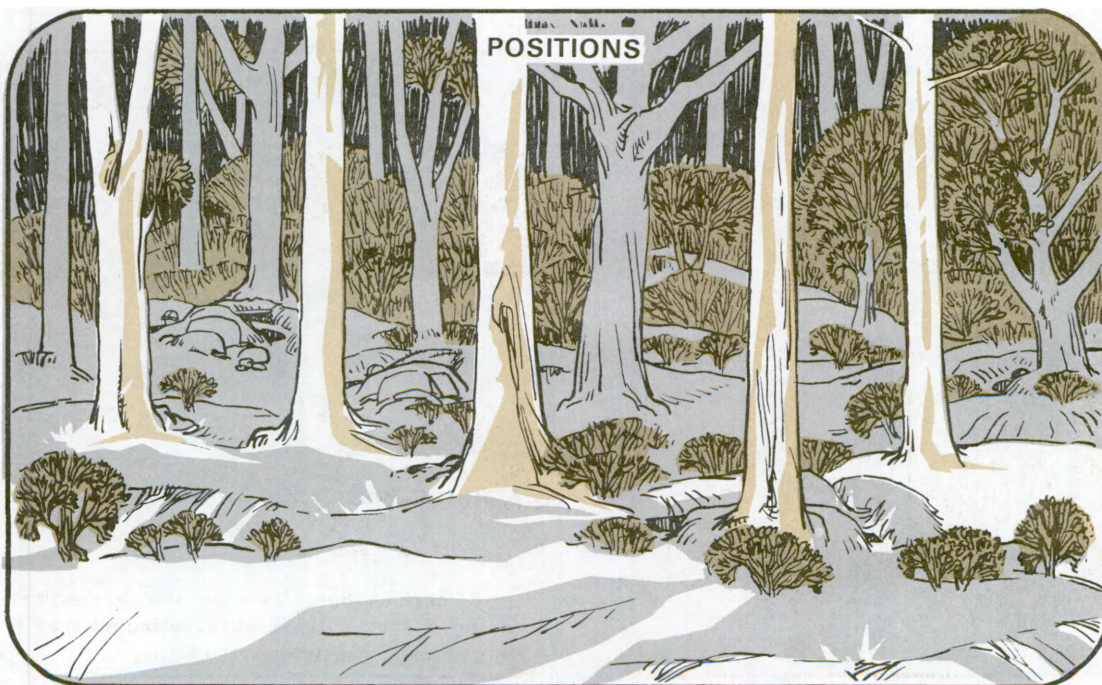




**Shadows** draw attention. Camouflage should be used to break up shadows of positions and equipment. Shaded areas should be used as concealment. This is particularly true of shadows of buildings in cities.



**Positions** should not be where the enemy expects to find them. They should be on the side of a hill, away from road junctions or lone buildings, and in covered and concealed locations.





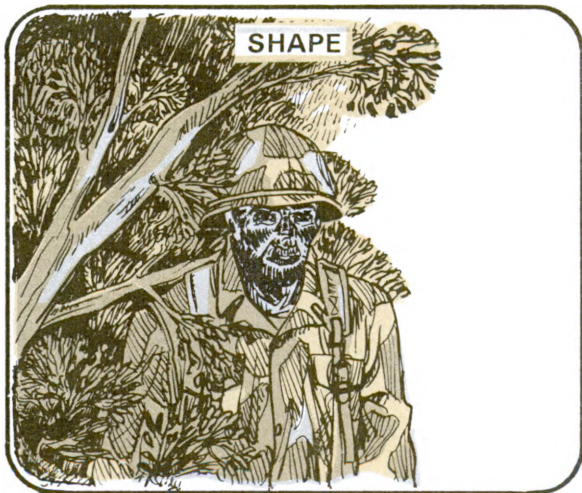
**Shine** may be a **light source** such as a cigarette glowing in the dark, or **reflected light** from smooth, polished surfaces such as shiny boots, mess gear, a worn helmet surface, a windshield, binoculars, eyeglasses, a watch crystal, or exposed skin not toned down with face paint. The use of lights or the reflection of light may help the enemy detect friendly positions. Equipment that shines should be concealed, or covered with a dull surface cover, such as mud or paint.

#### CAMOUFLAGING TO REDUCE SHINE

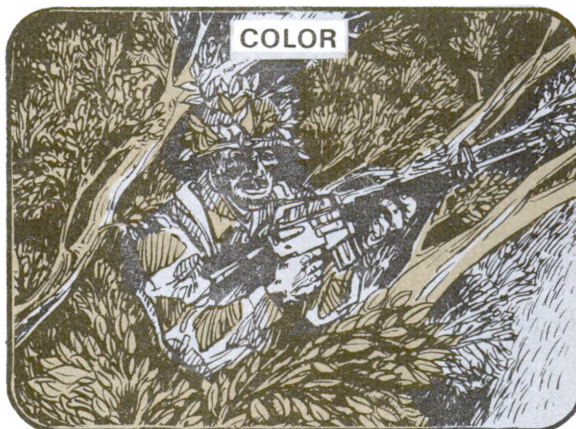


**Shape** is the outline of something. The shape of the helmet is easily recognized as is the undisguised shape of a man's body. Both camouflage and concealment should be used to make familiar shapes blend with their surroundings.

#### SHAPE



#### COLOR



**Color** aids detection if there is a contrast between the color of a soldier or object and the background—for example, white or black skin against the dark green of jungle foliage. Camouflage should be changed when moving into an area having different background color.



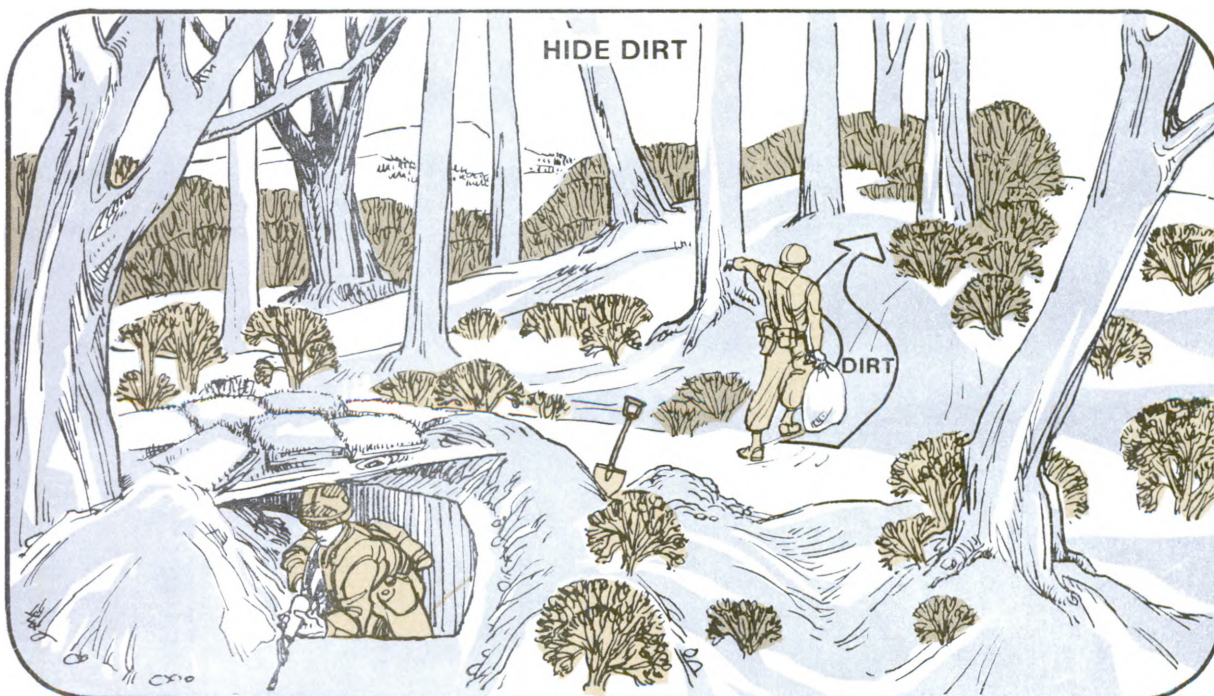
Camouflage colors should not contrast with background terrain and vegetation. Bright colors should not be used.

**Dispersion** is the **distance** between men, vehicles, and equipment. If a squad is not dispersed, it is easier to detect and easier to hit. Distances between men, teams, and squads must be prescribed and enforced.

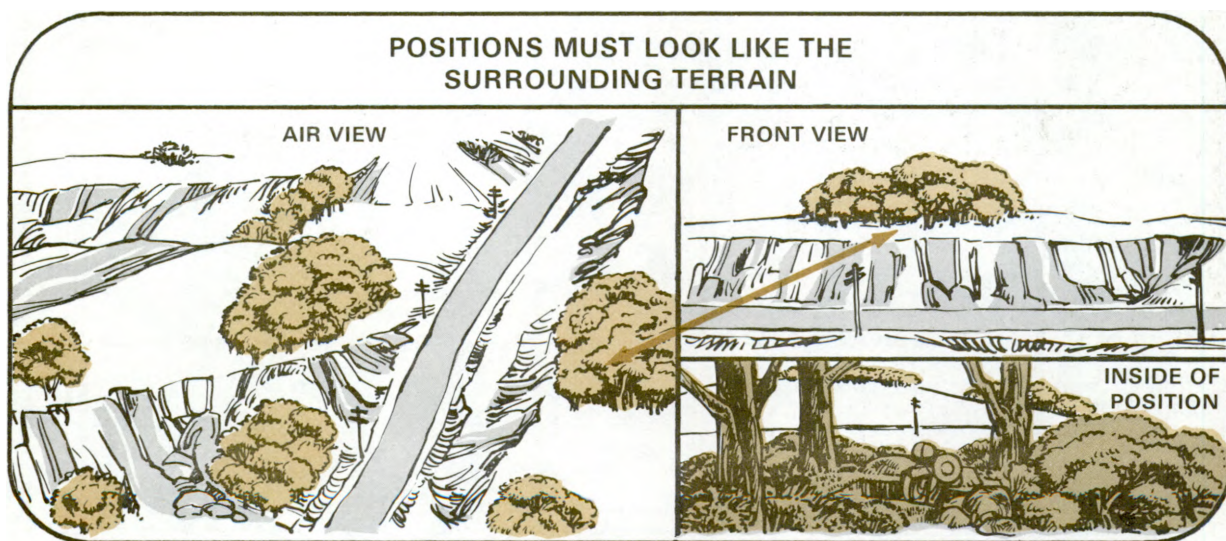
## HOW TO CAMOUFLAGE

Before camouflaging, soldiers study the terrain and vegetation of the area they are in and the area to which they are going. Grass, leaves, brush, and other natural materials must be arranged to conform to the area. Tree branches stuck into the ground in an open field will not fool anyone. Vegetation changes from area to area. As units move from one area to another, camouflage must be changed to blend with the vegetation.

Soldiers should camouflage or hide dirt from fighting positions and latrines. If necessary, they take it away from the positions and camouflage it.



Dirt in parapets and overhead cover must be camouflaged. The bottom of the holes must also be camouflaged to prevent detection from the air. Positions should be under cover. It may be hard to find positions from which a unit can accomplish its mission and which it can hide easily, but some trade-off is usually possible. A position which is out in the open is hard to conceal and should be avoided.



Soldiers should use **only** that material which is needed. Too much material (**natural or manmade**) may reveal a position. It should be gathered from a wide area. An area stripped of all its foliage will draw attention.

Men must continue to camouflage their positions as they prepare them. Work on a defensive position in daylight depends on the enemy air threat and whether or not the enemy can see the position. When the enemy has air superiority, work may be possible only at night. Shiny or light-colored objects which attract attention from the air must not be left laying about. Mess kits, mirrors, food containers, white underwear, and towels must all be hidden. Shirts must not be removed, as the exposed skin surfaces would stand out and increase the chance of being seen. Fires must not be used where there is a

chance that the smoke or flame will be seen by the enemy. Trails and other evidence of movement must be hidden.

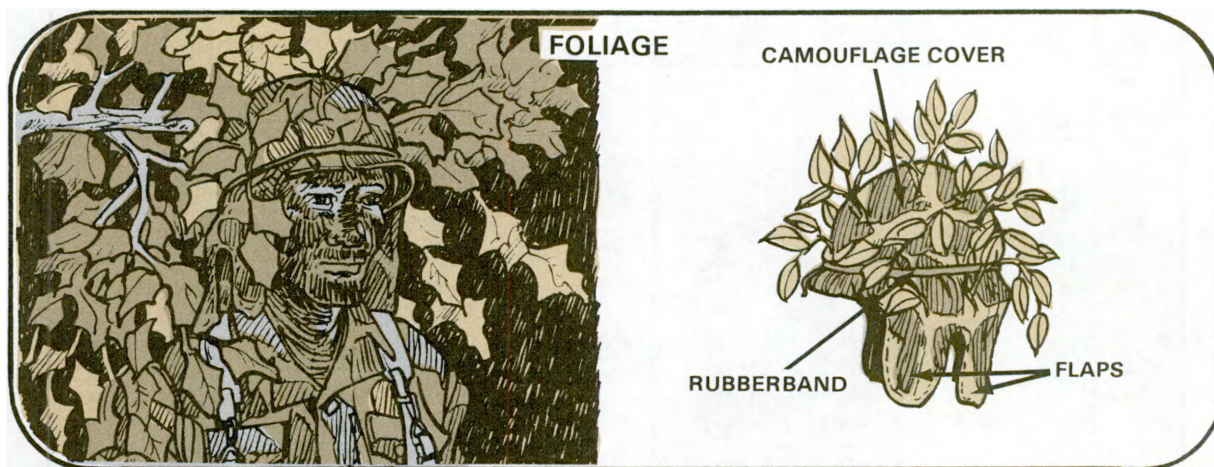
After camouflage is complete, the position should be inspected from the enemy's point of view. Camouflage should be checked often to see that it stays natural-looking and does conceal the positions. If it does not look natural, it should be rearranged or replaced.

Equipment must blend with its background.

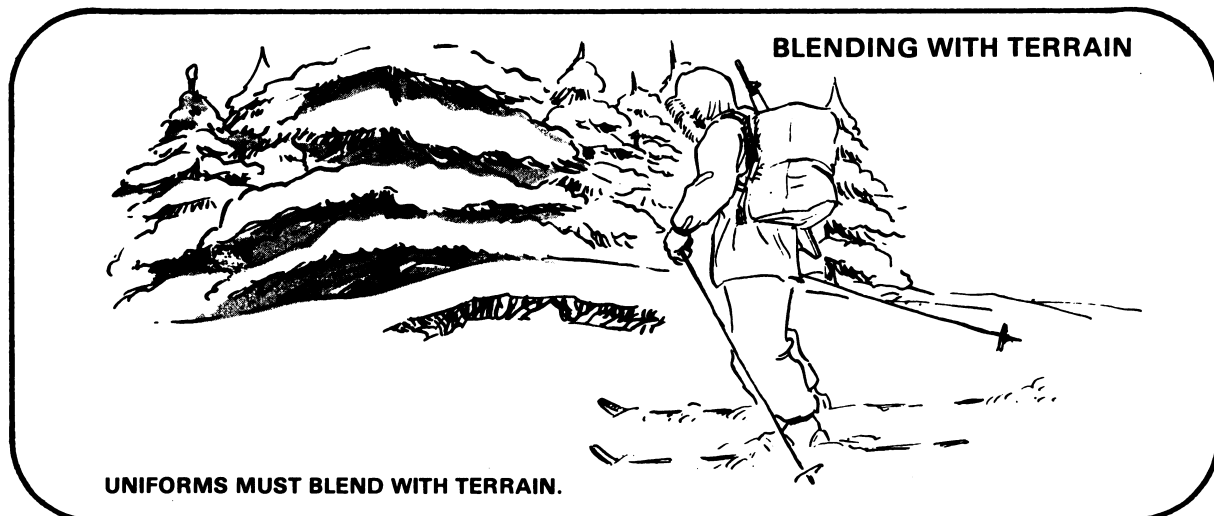
Helmets must be covered with the issue helmet cover or one made of cloth or burlap colored to blend with the terrain. The cover should fit loosely. Foliage should stick over the edges. This should not be overdone. If



there is no material for helmet covers, the surface of helmets can be disguised and dulled with irregular patterns of paint or mud. Camouflage bands, string, burlap strips, or rubberbands can be used to hold the foliage in place.



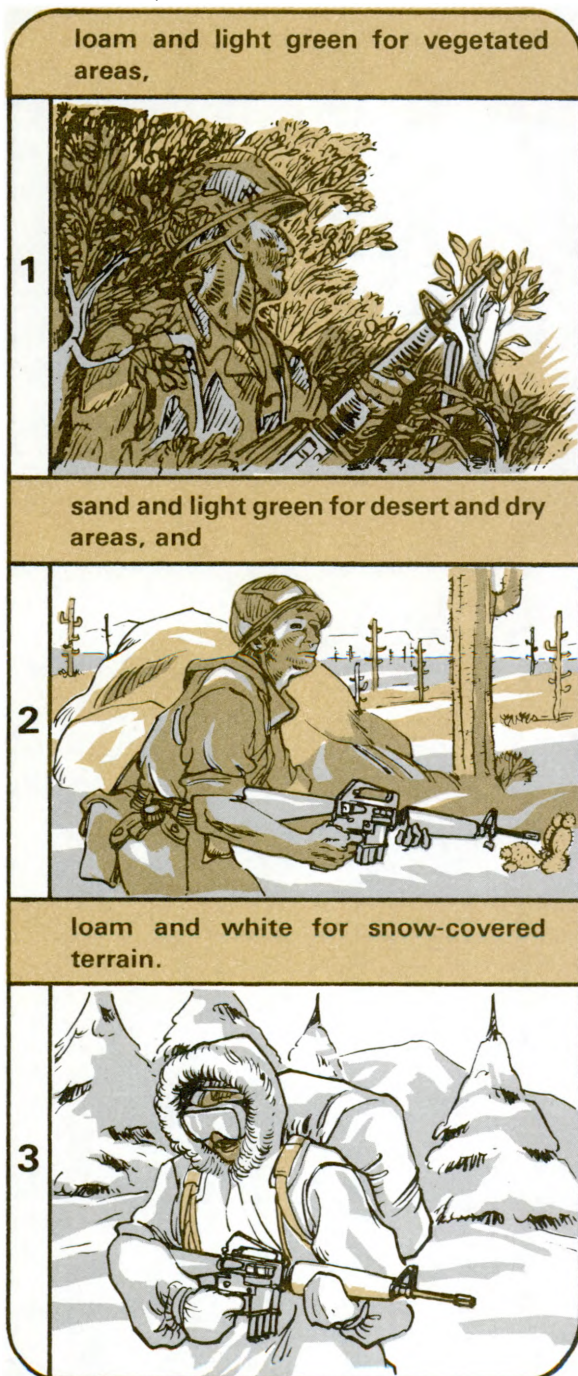
Uniforms must blend with the terrain. Badly faded equipment may be hard to hide. Units should turn in badly faded equipment or use mud, a camouflage stick, paint, etc., to color it until it can be exchanged.



When operating in snow-covered terrain, soldiers should wear overwhites and, where possible, they should color equipment white. If overwhites are not issued, sheets or other white cloth can be used for camouflage.



Exposed skin reflects light and draws the enemy's attention. Even very dark skin, because of its natural oil, will reflect light. Camouflage face paint sticks are issued in three standard two-tone sticks —



When applying camouflage face paint, men work with one another. They check each other. They apply a two-color combination in an irregular pattern. Shine areas (forehead, cheekbones, nose, ears, and chin) are painted with a dark color. Shadow areas (around the eyes, under the nose, and under the chin) are painted with a light color. Exposed skin on the back of the neck, ears, arms, and hands should be painted.

When face paint sticks are not issued, burnt cork or charcoal can be used to tone down exposed skin. Mud may be used, but it dries and may peel off, exposing the skin. It may also contain harmful germs.





## HOW TO CLEAR A FIELD OF FIRE

Before clearing a field of fire, leaders should estimate how much clearing can be done in the time available. They then decide what clearing is to be done.

**Soldiers should —**

- **not disclose the unit's position by careless or too much clearing;**
- **leave a thin natural screen of vegetation to hide defensive positions;**
- **remove or thin dense brush which obstructs the field of fire;**
- **cut weeds only where they obstruct observation;**
- **drag away cut brush, limbs, and weeds to places where the material will not be seen by the enemy or hide him from the position;**
- **remove all cuttings;**
- **cover cuts on trees and bushes forward of the position with mud, dirt, or snow; and**
- **in clearing, leave no trails as clues for the enemy.**

In thick woods, complete clearing of a field of fire may not be desirable or possible in the time available. Riflemen and machine-gunners just thin undergrowth and remove lower branches of trees. Grenadiers must clear fields of fire on the ground and overhead.





## APPENDIX C

# WEAPONS

To succeed in combat, soldiers must know the characteristics of their weapons and how to fire them. This appendix describes those with which rifle platoons fight.

### FIRE

**Fire Distribution.** There are two ways to cover a target with direct fire —

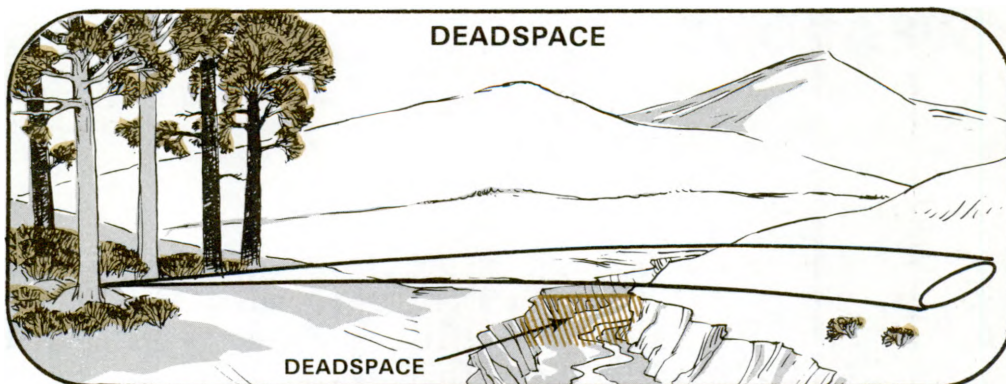


1. **point fire** is directed at one point; for example, an entire fire team or squad shooting at one bunker; and

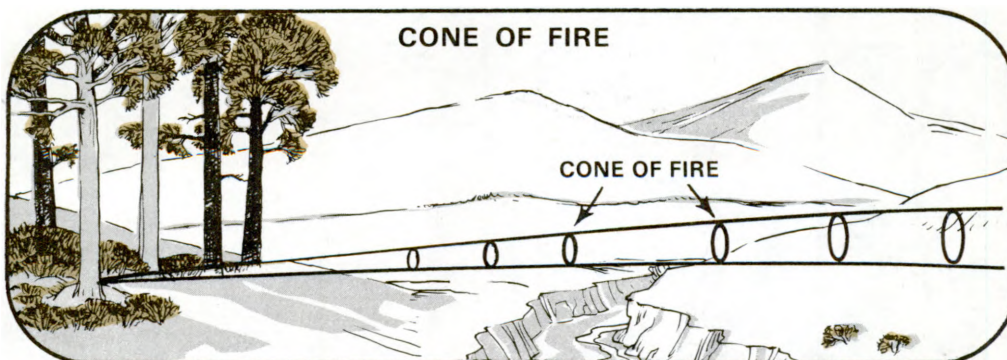
2. **area fire** covers an area laterally and in depth. If a squad leader wants fire on a woodline, he may shoot tracers to mark the center of the target. Men on his left fire to the left of his tracers, men on his right fire to the right.

**Suppressive fire** does not let an enemy see, shoot, or track a target. Direct or indirect fire close enough to an enemy machinegun to keep its gunner from aiming and firing is suppressive fire. Smoke placed on a tank that keeps the tank gunner from seeing a target is also suppression. Suppressive fire allows friendly movement with fewer losses.

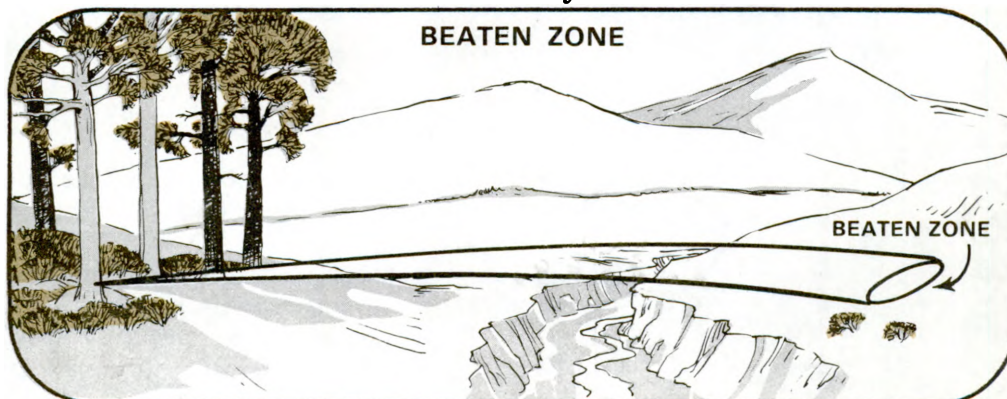
**Deadspace** is an area, within the range and sector of a weapon, that cannot be hit by fire from that weapon or seen by its gunner.



**Cone of fire** is the cone-shaped pattern formed by the paths of rounds in a group or burst of rounds fired from a gun with the same sight setting. The paths differ and form a cone because of vibration, wind changes, variations in ammunition, etc.



**Beaten zone** is the pattern on the ground formed by the cone of fire.

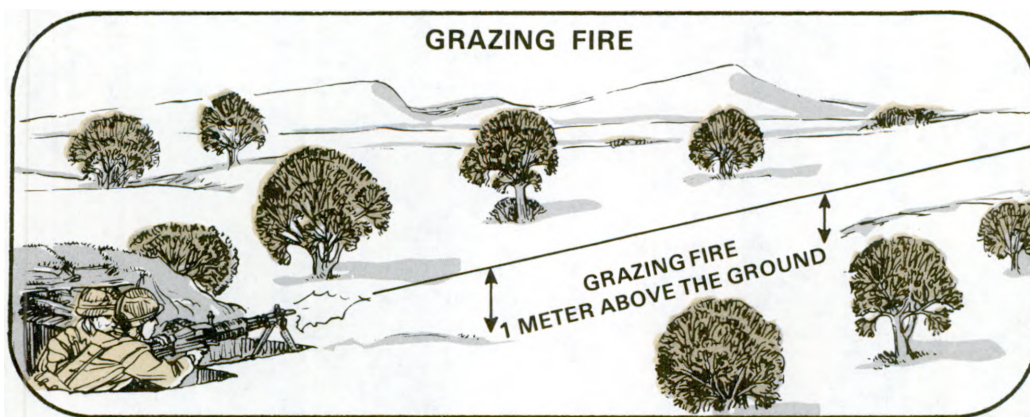




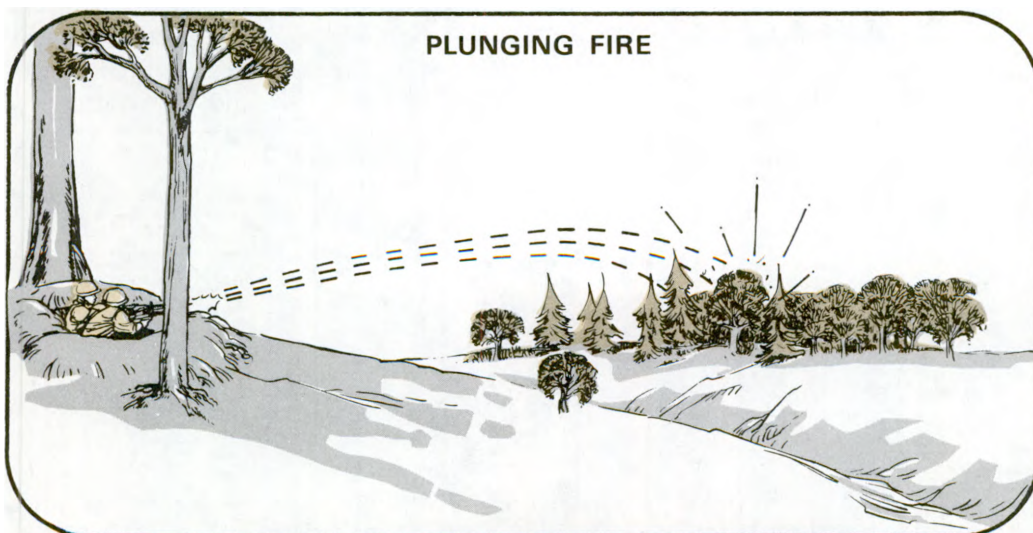
Rifle and machinegun fire is classified with respect to the ground and with respect to the target.

### Fire with respect to the ground:

**Grazing fire** is fire in which most of the rounds do not rise above 1 meter from the ground.



**Plunging fire** is that in which the path of the rounds is higher than a standing man except in its beaten zone. Plunging fire is attained when firing at long ranges, when firing from high ground to low ground, and when firing into a hillside.



### Fire with respect to the target:

**Frontal** — shot directly at the front of the target.



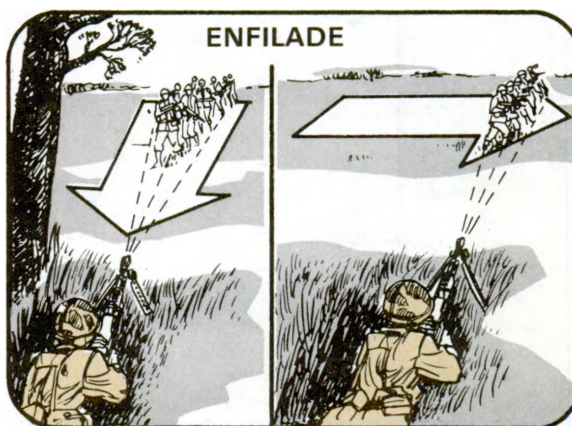
**Flanking** — shot into the flank of the target.



**Oblique** — when the long axis of the beaten zone is oblique to the long axis of the target.



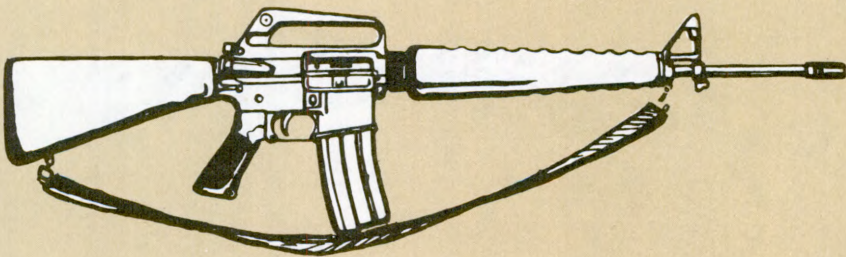
**Enfilade** — when the long axis of the beaten zone is the same as the long axis of the target. This type of fire is either frontal, flanking, or oblique. It is the best type of fire with respect to the target because it makes best use of the beaten zone. An example would be firing at the front of a column of soldiers or at a flank of soldiers on line.





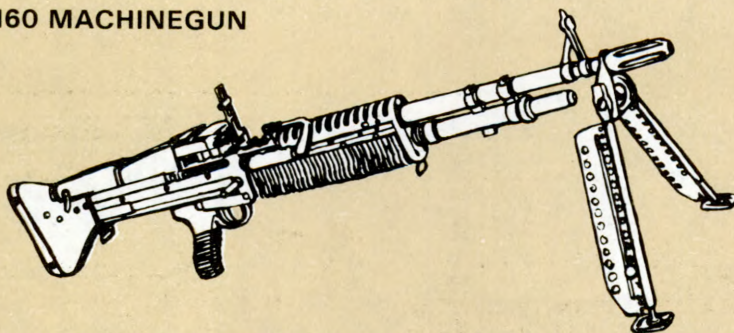
## WEAPONS

**The M16A1 RIFLE** fires 5.56-mm rounds. It is magazine-fed and gas-operated. It can shoot either semiautomatic or automatic fire through the use of a selector lever. The most stable firing positions (those increasing the probability of target hit) are the prone supported or foxhole supported for semiautomatic fire and the prone bipod supported for automatic fire.

M16A1 RIFLE	
	
CHARACTERISTICS	
Weight (loaded) (20-rd magazine) (30-rd magazine)	3.5 kg (7.6 lb) 3.6 kg (7.9 lb)
Length (w/o bayonet)	99 cm (39 in)
Ranges at which a 50:50 chance of target hit can be expected:	
Moving target	Less than 200 meters
Stationary target	250 meters
Maximum range of grazing fire	350 meters
Maximum range	2,653 meters
Cyclic rate of fire	700 to 800 rd/min
Sustained rate of fire	12 to 15 rd/min

The **M60 MACHINEGUN** fires 7.62-mm rounds. It is belt-fed, gas-operated, and automatic. It has an attached bipod mount and a separate tripod mount. Firing from the prone position, using the M122 tripod and the traversing and elevating mechanism, allows the most accurate fire. Some vehicular mounts (such as the pedestal mount on the M151 Jeep) are available for this gun. When the gunner is standing, the gun may be shot from the hip, underarm, or shoulder firing position.

M60 MACHINEGUN



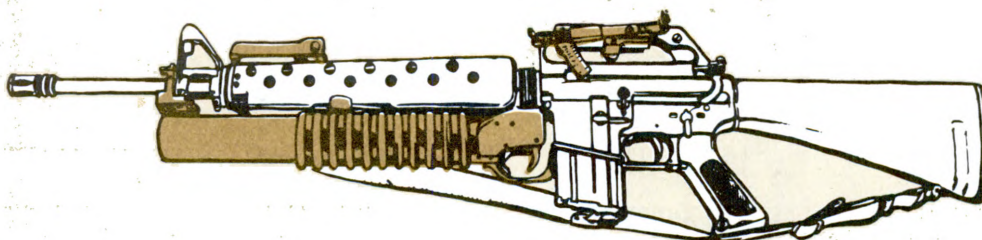
## CHARACTERISTICS

Weight (machinegun only)		10.4 kg (23 lb)
(tripod, w/traversing and elevating mechanism)		8.8 kg (19.5 lb)
(ammunition, 300 rds)		9.5 kg (21 lb)
Length		110.5 cm (43.5 in)
Maximum range		3,725 meters
Tracer burnout		900 meters
Maximum range of grazing fire		600 meters
Ranges at which a 50:50 chance of target hit can be expected, shooting bursts of 6 to 9 rounds:		
200 meters for moving target (bipod mounted)	600 meters for a point target* (bipod or tripod)	800 meters for an area target** (bipod mounted)
1,100 meters for an area target** (tripod mounted)	*A point target is the size of a standing man. **An area target is an area of the size that a fire team would occupy.	
Has a cyclic rate of		550 rd /min.
Rates of fire:		
Sustained		100 rd /min
Rapid		200 rd /min
Types of ammunition		
Ball	Tracer	Armor-piercing



**The 40-MM GRENADE LAUNCHER, M203**, is a grenade launcher (GL) attached to an M16A1 rifle. The rifle has already been discussed. The GL is a single-shot, breech-loaded, pump-action weapon. It fires a variety of ammunition. It can be used to suppress targets that are in defilade. Grenadiers using the GL can suppress or disable armored vehicles, except tanks. The 40-mm round can penetrate concrete, timber, or sandbagged weapon positions and some buildings. It can be used to illuminate and signal. The firing positions with the most stability are the **standing supported** and **prone supported**.

40-MM GRENADE LAUNCHER, M203

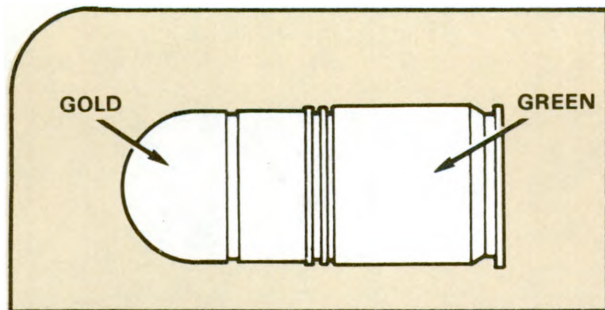


### CHARACTERISTICS

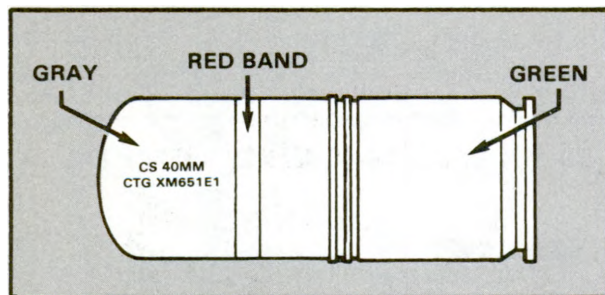
Weight (loaded) (rifle and GL)		4.98 kg (11 lb)
Length		99 cm (39 in)
Ranges at which a 50:50 chance of target hit can be expected:		
Area target (fire team size)		350 meters
Point target — vehicle, weapon position — window opening — bunker aperture		200 meters
		125 meters
		50 meters
Maximum range		400 meters
Minimum safe firing ranges (HE and TP):	Training	80 meters
	Combat	31 meters
Minimum arming range		14 to 38 meters*

\*This must be considered in close-in firing, as in towns and jungles, to insure that the round will explode.

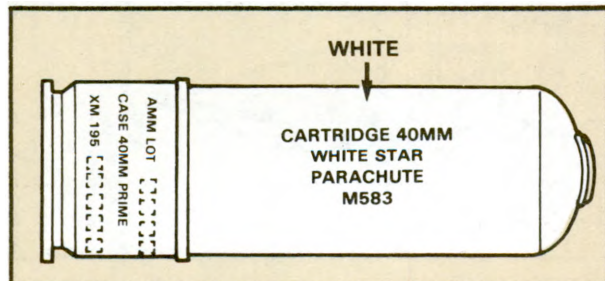
## TYPES OF 40-MM AMMUNITION ARE:



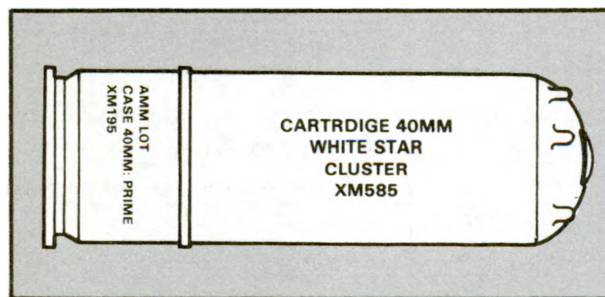
**M433 High Explosive Dual Purpose (HEDP).** This round can penetrate 5 cm (2 in) of armorplate, 30 cm (12 in) of pine logs, 40 cm (16 in) of concrete blocks, or 50 cm (20 in) of sandbags at ranges up to 400 meters. It has a 5-meter casualty radius against exposed troops.



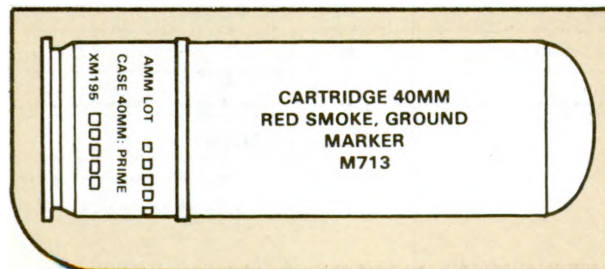
**M651 CS.** This round is used to drive the enemy from bunkers or enclosed positions in built-up areas.



**M583 White Star Parachute/M661, Green Star Parachute/M662 Red Star Parachute.** These are used to signal and illuminate. One can be placed 300 meters forward of a squad to illuminate an area 200 meters in diameter for 40 seconds.



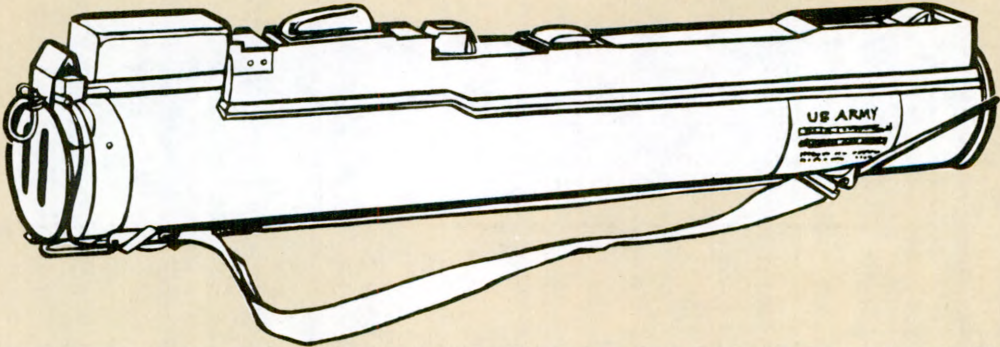
**M585 White Star Cluster/M663 Green Star Cluster/M664 Red Star Cluster.** They are used to signal. Caution: The green star cluster may appear white in bright sunlight.



**M713 Red Smoke, Ground Marker/M715 Green Smoke, Ground Marker/M716 Yellow Smoke, Ground Marker.** These are used to mark locations and targets, not for screening.



The **M72A2 LAW** is a self-contained unit. It consists of a 66-mm HEAT rocket in a disposable fiberglass and aluminum launcher tube. Its light weight and its ability to penetrate more than 30 cm (12 in) of armor make it a weapon which can be used against enemy armor, bunkers, and other hard targets out to a range of 200 meters. The most stable firing positions for the LAW are the **standing supported, prone, and prone supported.**

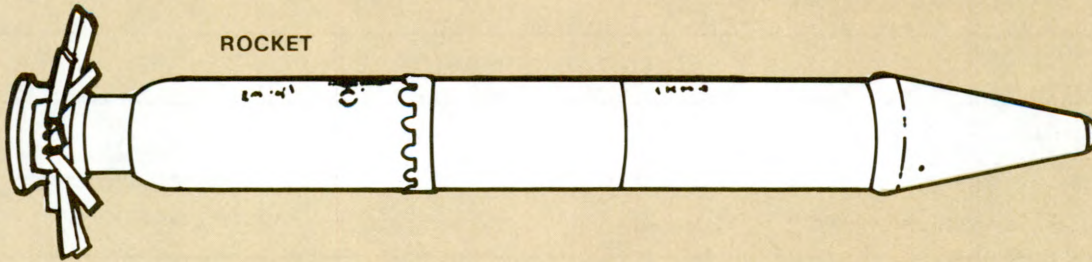
M72A2 LAW LAUNCHER (CLOSED POSITION)	
	
CHARACTERISTICS	
Length (closed)	66 cm (26 in)
Length (extended)	89 cm (35 in)
Maximum range	1,000 meters
Ranges at which a 50:50 chance of target hit can be expected:	
Stationary target	200 meters
Moving target	165 meters
Minimum arming range	10 meters
Armor penetration	30 cm (12 in)

The **VIPER LAW** is a shoulder-fired, short-range, unguided antitank weapon. It consists of a 70-mm HEAT rocket in a disposable fiberglass launcher tube. Its light weight, coupled with its armor-penetrating capability, gives every soldier the ability to defeat armored vehicles. It can also be used to destroy bunkers or other hardened targets out to a range of 300 meters. The firing positions providing the most stability for the gunner when firing the Viper are the **standing supported**, **prone**, and **prone supported** positions.

VIPER LAW  
LAUNCHER  
(CLOSED POSITION)



ROCKET



### CHARACTERISTICS

Weight (complete)	3.2 kg (7 lb)
Length (closed)	69 cm (27 in)
Length (extended)	118.8 cm (46.8 in)
Effective range	300 meters
Minimum arming range	18 meters



**Methods of Engagement for the LAW.** There are four methods of engagement. They are **single, sequence, pair, and volley firing**. The best methods of engagement are volley and pair firing.

● In **single firing**, a target is shot at by one man, firing only one weapon. This method is used only at ranges of 50 meters or less. Beyond this range, single firing is ineffective as the chance of a first-round hit/kill is low.

● In **sequence firing**, the target is shot at by only one gunner who has two or more weapons. Before he shoots, he should extend several launchers. After firing the first weapon, he notes its impact. If he gets a hit, he continues to shoot, using the same sight picture, until the target is destroyed. If the first round is a miss, he should adjust the range and lead of succeeding rounds until he gets a hit. He then continues to shoot until his target is destroyed.

● In **pair firing**, two or more gunners with two or more weapons shoot at a target, one at a time. Each gunner prepares several weapons. The gunners swap information when shooting at the target. The first gunner seeing a target identifies it; announces the estimated range and lead he will use (for example, TANK, 150 METERS, FAST TAR-

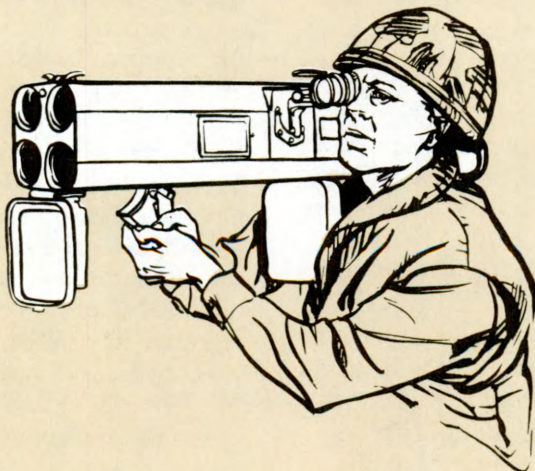
GET); and shoots. If the first gunner has a miss, the second gunner quickly announces a revised estimate of range and lead (if **appropriate**) and shoots. The gunners continue exchanging range and lead information until one gets a hit. Once the range and lead have been found, all gunners, on command, shoot at the target until it is destroyed. Pair firing is preferred over sequence firing as it lets the gunners get target hits faster; that is, gunners firing the subsequent shots can be ready to shoot as soon as the previous round impacts. In sequence firing, the gunner must get another weapon, establish a sight picture, and shoot. Pair firing also has the advantage of having two or more gunners track the target at one time.

● In **volley firing**, two or more gunners fire at once; each gunner fires one or more weapons. Shots are fired on command or on signal until the target is destroyed (for example, TANK, 100 METERS, SLOW TARGET, VOLLEY FIRE, READY, AIM, FIRE). Each gunner prepares two or more weapons. Volley fire is used only when the range to the target and the lead have been determined. Range can be determined by map, by pacing, or by the results of pair firing after a target has been hit. The volley method is best because more rounds are shot at a target at one time. This increases the chance of a hit.

The **M202A1 MULTISHOT ROCKET LAUNCHER 66-MM (FLASH)** is a light-weight, four-tube, 66-mm rocket launcher (RL). It is aimed and shot from the right shoulder in the **standing, kneeling, or prone** position. It can shoot a single rocket or up to four rockets semiautomatically at a rate of one rocket per second. It is reloaded with a new clip of four rockets. The brilliant splash of the bursting incendiary warhead makes it a good weapon to suppress RPGs and

Saggers. When it impacts near enemy vehicles, it will make them button up. The most stable position from which to fire the FLASH is the **standing supported** position. When firing from a foxhole, there are two limitations. First, overhead cover can limit the elevation of the RL and therefore the range. Second, when elevating the RL, the gunner must **insure that the rear of the launcher is outside the hole so that its backblast is not deflected on him.**

M202A1 MULTISHOT ROCKET LAUNCHER 66-MM (FLASH)



## CHARACTERISTICS

Weight (loaded)	12.1 kg (26.6 lb)
Length (closed)	68.5 cm (27 in)
Length (extended)	88.9 cm (35 in)

Ranges at which a 50:50 chance of target hit can be expected:

Area target (fire team size)	750 meters	Minimum arming range	6 to 13 meters
Point target	200 meters	Bursting radius of rocket warhead	20 meters

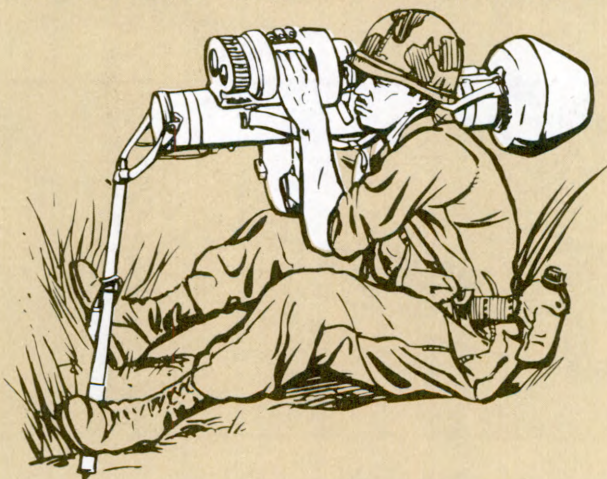


The **M47 DRAGON MEDIUM ANTI-TANK WEAPON** is a command to line-of-sight guided missile system. It is man-portable and shoulder-fired. (The Dragon actually rests on the front bipod legs and the gunner's shoulder.) It has two major components, the tracker and the round. The round (the expendable part of the system) has two major parts, the launcher and the missile. These are packaged together for handling and shipping. The launcher is the handling and carrying

container and is the tube for firing the missile. The tracker is the reusable part of the system. It is designed for fast, easy detachment from the round.

The gunner looks through the sight in the tracker and puts the crosshairs on the target. He keeps the crosshairs on the target and fires. The missile is continuously guided along the gunner's line-of-sight. The tracker detects deviations from the line-of-sight and sends corrections to the missile by a wire link.

#### M47 DRAGON MEDIUM ANTITANK WEAPON



#### CHARACTERISTICS

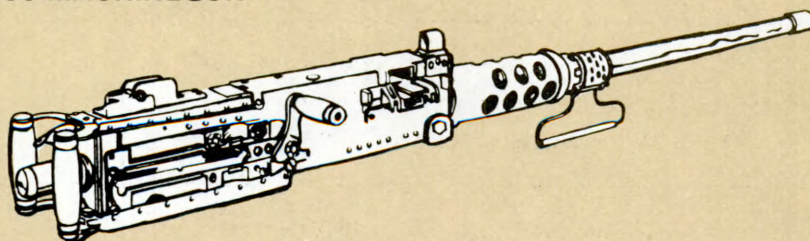
Weight (total) w/day tracker	15.30 kg (31.87 lb)
Weight (total) w/night tracker	20.76 kg (45.89 lb)
Weight (day tracker)	3.9 kg (6.58 lb)
Weight (night tracker)	9.36 kg (20.6 lb)
Weight (round)	11.4 kg (25.29 lb)
Length	115.4 cm (45.5 in)
Diameter	29.2 cm (11.5 in)
Minimum range	65 meters
Maximum range	1,000 meters

Tracker: Electro-optical with 6-power magnification

**NOTE:**

The cal .50 machinegun is not organic to the rifle platoon; but, as there are many times when infantrymen use it, it is described here.

The **CALIBER .50 MACHINEGUN** is belt-fed and recoil-operated. It can fire single shot and automatic. The gun is mounted on the M3 tripod mount or the M63 anti-aircraft mount. Bursts of 9 to 15 rounds should be used to shoot at ground targets from a stationary position. To shoot at aircraft, a continuous burst should be used rather than several short bursts. While shooting on the move, long bursts should be "walked" into the target. Enemy antitank guided missile (ATGM) gunners, vehicles, and troops can be suppressed with a heavy volume of fire from the caliber .50 machinegun until a friendly maneuver element can destroy or bypass the enemy.

**CALIBER .50 MACHINEGUN****CHARACTERISTICS**

Weight of machinegun	38 kg (84 lb)
Weight of tripod	20 kg (44 lb)
Length of machinegun	165 cm (65 in)
Maximum range of grazing fire	800 meters
Tracer burnout	2,200 meters
Maximum range	6,800 meters



**CALIBER .50 MACHINEGUN CONTINUED**

Ranges at which a 50:50 chance of target hit can be expected:

**Tripod-mounted, firing bursts of 9 to 15 rds**

700 meters against a man (point target)

1,000 meters against a vehicle

1,600 meters against an area target

**Cupola-mounted, stationary vehicle, firing bursts of 9 to 15 rds**

500 meters against a man (point target)

800 meters against a vehicle

1,000 meters against an area target

**Cupola-mounted, moving vehicle, firing bursts of 15 to 30 rds**

300 meters against an area target

500 meters against a squad-size position (probability of hit reduced to 30%)

Has a cyclic rate of **450 to 550 rd/min**

**Rates of fire:**

**Sustained** **40 or less rd/min**

**Rapid** **40 or more rd/min**

**Types of ammunition**

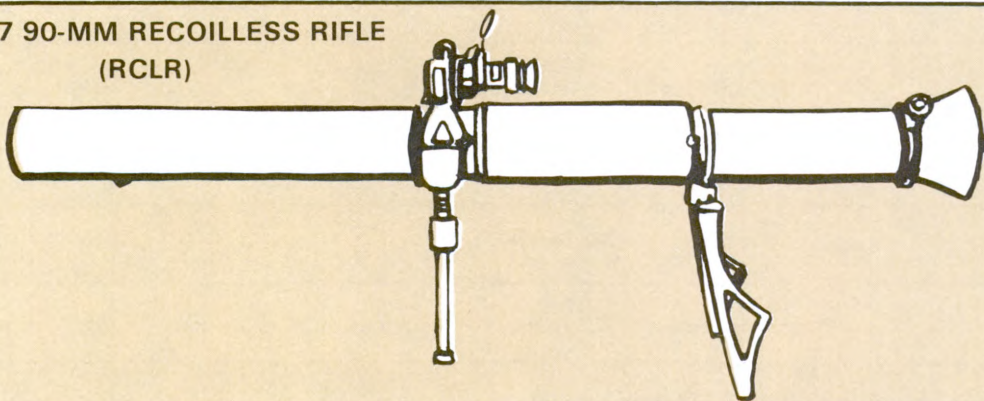
**Ball      Tracer      Armor-piercing      Armor-piercing incendiary**

**NOTE:**

The Dragon is the rifle platoon's primary antiarmor weapon, but some units may have the 90-mm recoilless rifle as their organic antiarmor weapon.

The **M67 90-MM RECOILLESS RIFLE (RCLR)** is a breech-loaded, single-shot, man-portable, crew-served weapon. It can be used in both antitank and antipersonnel roles. It can be shot from the ground, using the bipod and monopod, or from the shoulder. The most stable firing position is the **prone** position.

**M67 90-MM RECOILLESS RIFLE  
(RCLR)**



### CHARACTERISTICS

Weight (complete with sight)	17.5 kg (37.5 lb)
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Length	135 cm (53 in)
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Maximum range (approx)	2,100 meters
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Arming range	30 to 35 meters
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Ranges at which a 50:50 chance of hit can be expected:

300 meter stationary target
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200 meter moving target
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Telescope, M103A1 fixed focus, 3-power,	10-degree field of view.
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Ammunition	HEAT
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Target practice
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Canister (antipersonnel)
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## APPENDIX D

**PREPARATION OF  
FIGHTING POSITIONS**

A fighting position, well placed and well built, gives the defender a big advantage over an attacker. **It must —**



**PROTECT AGAINST** — small arms fire, indirect fire fragments, tank and antitank guided missile (ATGM) fire, and aerial and ground observation; and

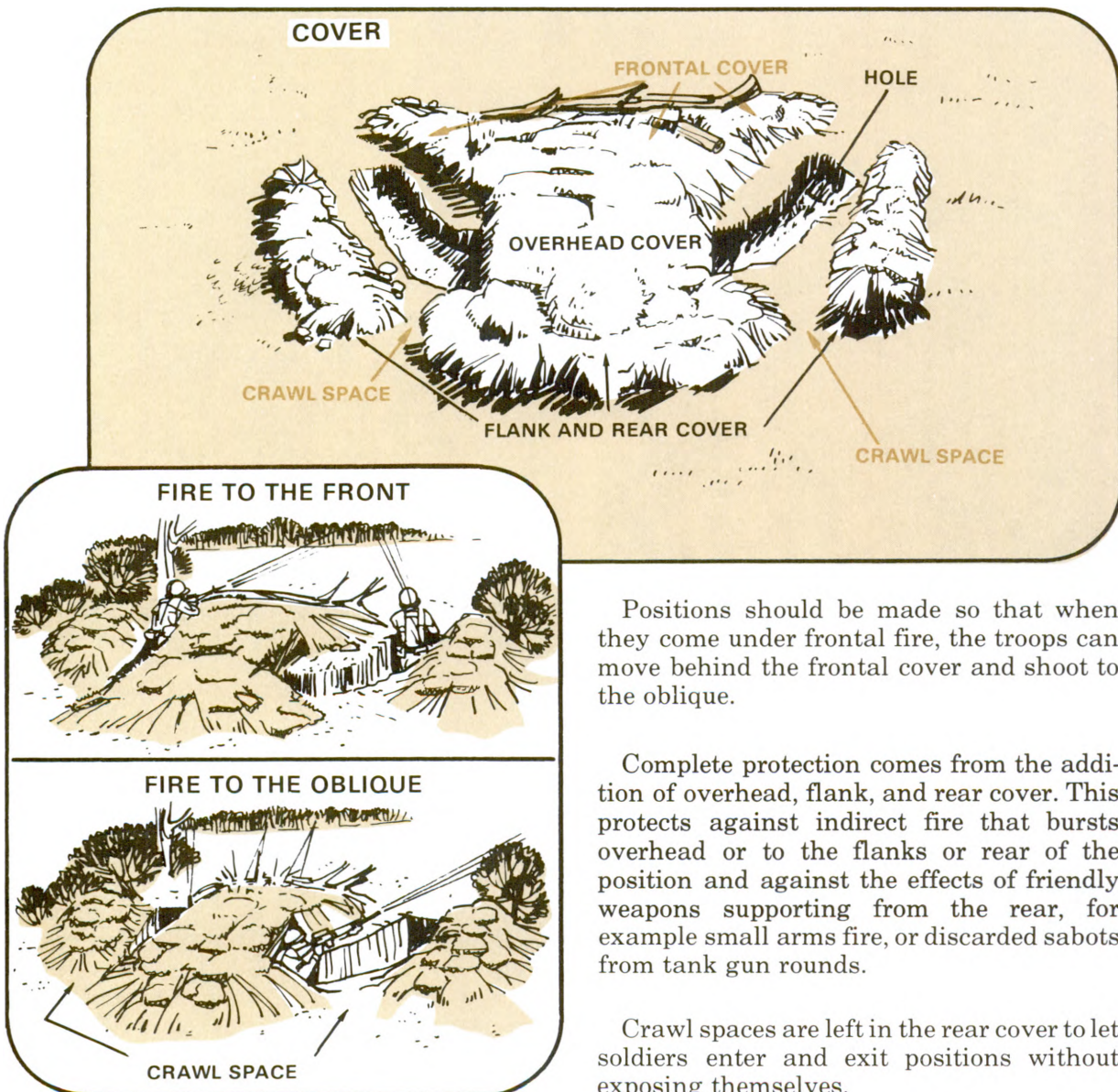
**PROVIDE FOR** — mutual support with other fighting positions, observation, and a good field of fire.

**COVER**

Protection from enemy weapons' effects reduces the chances of casualties.

Natural frontal cover (**trees, rocks, logs, rubble, etc.**) is best. It is hard for the enemy to see a fighting position concealed by natural cover. Dirt from the hole may be used to improve protection. Bags of wet, packed sand also give good protection.

Frontal cover must be thick enough (at least 18 in/46 cm of dirt) to stop small arms fire, high enough to cover the heads of the men shooting from it, and far enough in front of the hole to allow room for elbow rests and sector stakes so that the men can fire to the oblique. It must be long enough to give cover to two men and to hide the muzzle blasts of their rifles when shooting to the oblique.



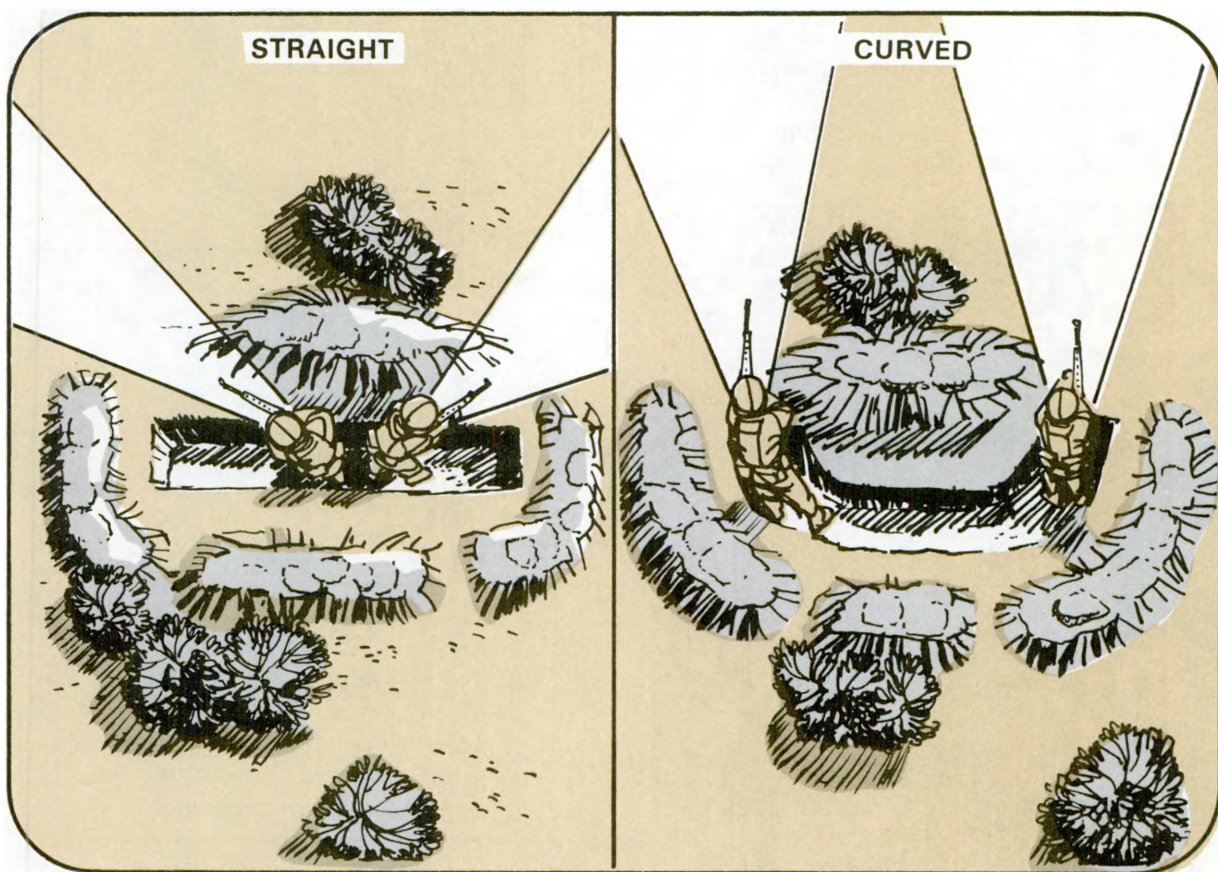
Positions should be made so that when they come under frontal fire, the troops can move behind the frontal cover and shoot to the oblique.

Complete protection comes from the addition of overhead, flank, and rear cover. This protects against indirect fire that bursts overhead or to the flanks or rear of the position and against the effects of friendly weapons supporting from the rear, for example small arms fire, or discarded sabots from tank gun rounds.

Crawl spaces are left in the rear cover to let soldiers enter and exit positions without exposing themselves.



The hole should not be too large. The smaller a position is, the less likely it is that enemy rounds, grenades, or airburst fragments will get into it. But, it should be large enough for two men in full combat gear. It should extend as far beyond the edges of the frontal protection as necessary to let the men fire to the front when not suppressed. The extension of the hole is usually straight, but may curve around the frontal protection if necessary.



## CONCEALMENT

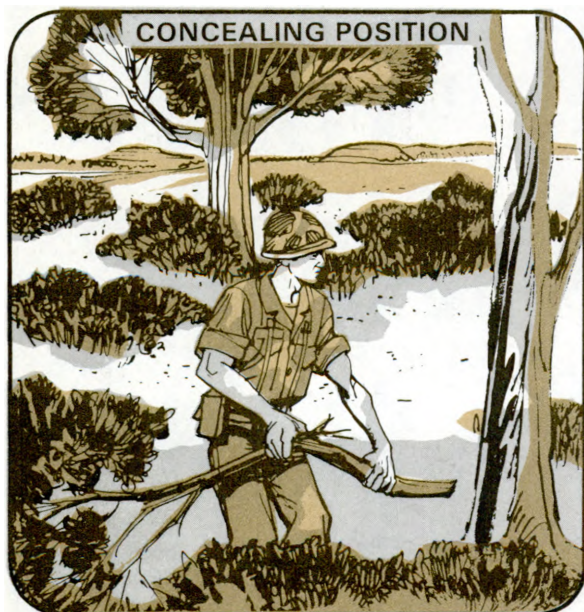
No matter how much protection a position may have, the enemy may be able to defeat the defender if his position is easy to see. Positions must be so well hidden that the enemy will have a hard time seeing them even after he is in hand grenade range.

Positions should be undetectable from the front.

Natural concealment is better than man-made because —

- it is readily available,
- it is less likely to attract the enemy's attention; and
- it need not be replaced.

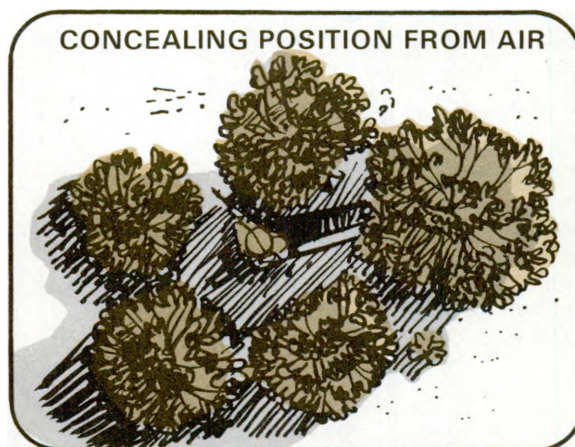
While digging a position, soldiers should take care not to disturb the natural cover and concealment. The dirt dug out can be used to build cover. Unused dirt is put behind the positions and camouflaged.



Camouflage material that does not have to be replaced (rocks, logs, live bushes, grass) is best. The defender should not use so much that a position looks different than the ground around it.

Positions should be concealed from enemy aircraft as well as from ground troops. If positions are under bushes, trees, or in buildings, they are less likely to be seen from above. Leaves, straws, or grass should be

placed on the floor of the hole to keep the fresh earth from contrasting with the ground around it. Sticks should not be used, since they may stop grenades from rolling into the grenade sumps.



Manmade cover must blend with its surroundings so it cannot be detected.

The position — and the troops and their gear in the position — should be concealed. Each man's face, arms, hands, clothes, and gear must be camouflaged.

## SECTORS OF FIRE

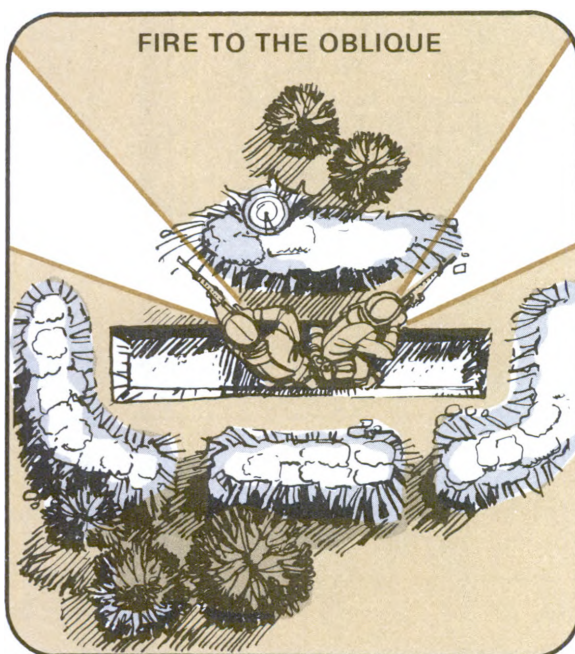
Fighting positions must have good fields of fire —

- to the front so defenders can see and shoot attackers as soon as they can be effectively engaged. This breaks up enemy attack formations and disrupts the enemy's control.

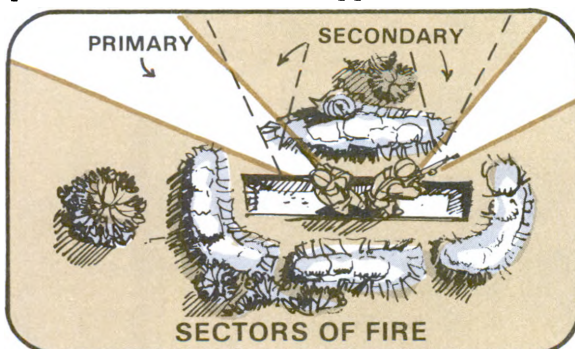




to the oblique so each man can support other positions on both sides. Firing to the oblique from behind frontal cover lets a man continue to shoot even when the enemy is firing at his position to suppress it. Oblique fire of rifles, LAWs, machineguns, and Claymores is the most lethal fire as it hits the enemy from an unexpected angle.

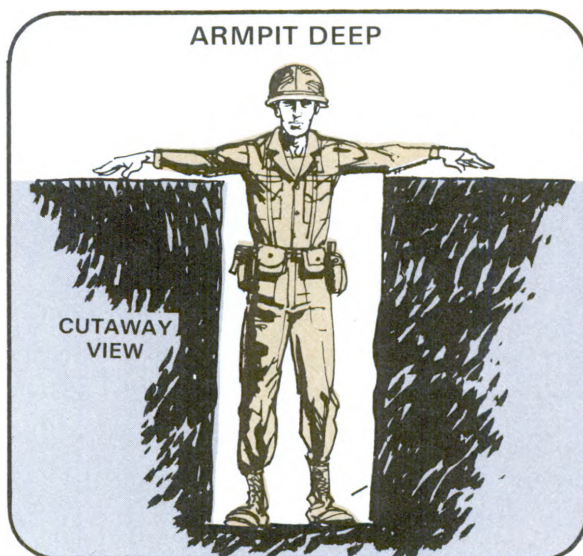


A fighting position's primary sector of fire is to the oblique. Its secondary sector of fire is to the front. A man can shoot oblique fire even when he is receiving frontal fire. Men firing to the oblique from several adjacent positions have mutual support.



## HOW TO PREPARE FIGHTING POSITIONS

**Dig it armpit deep.** This lowers the profile of the men and still lets them shoot their weapons.

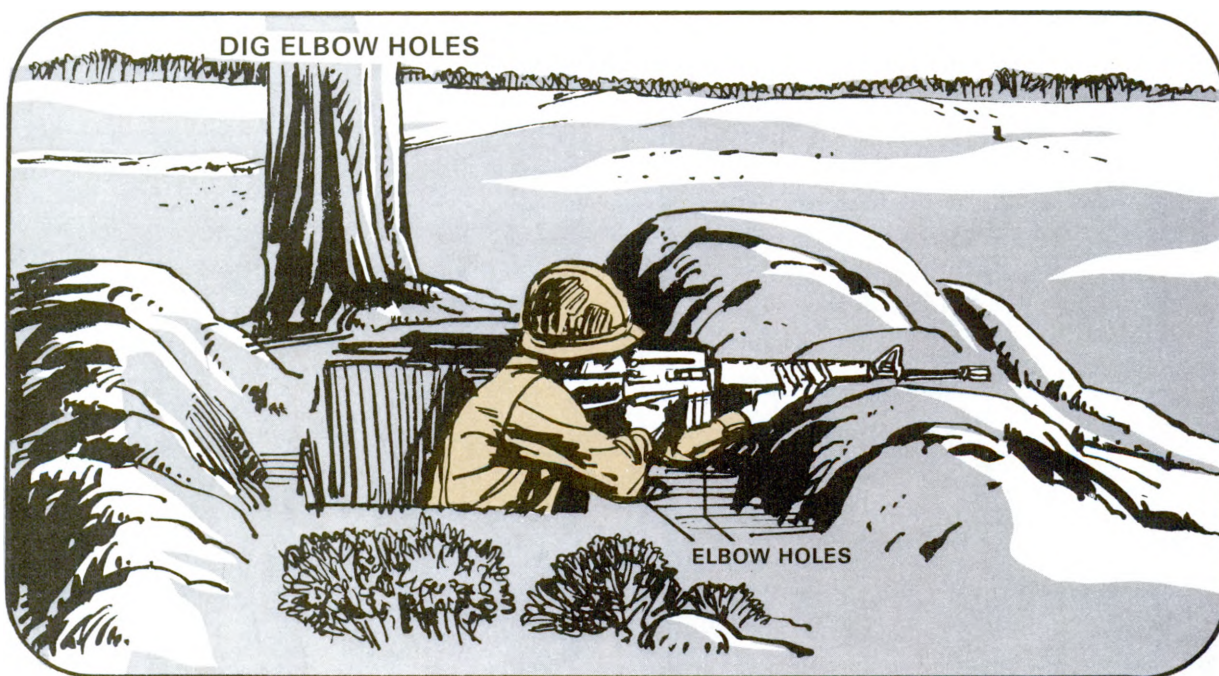


**Provide support.** This distance between the hole and the frontal cover should be enough to let a soldier shoot from a supported position (elbows on the ground).

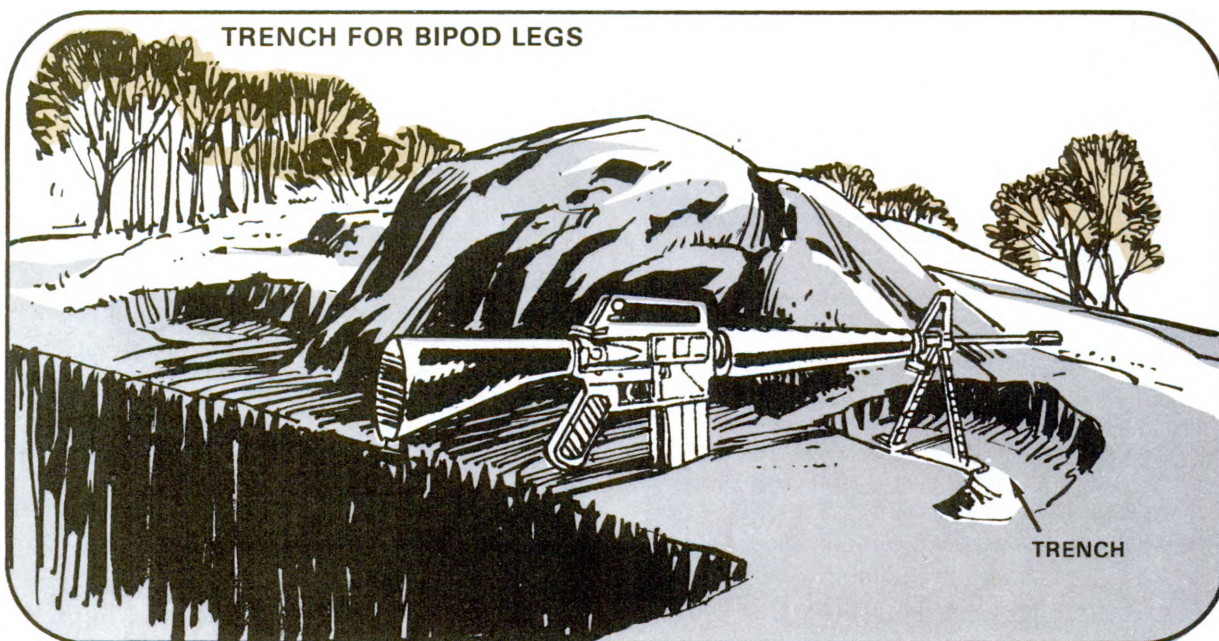




**Dig elbow holes.** This stabilizes the shooter's arms and lowers his profile.



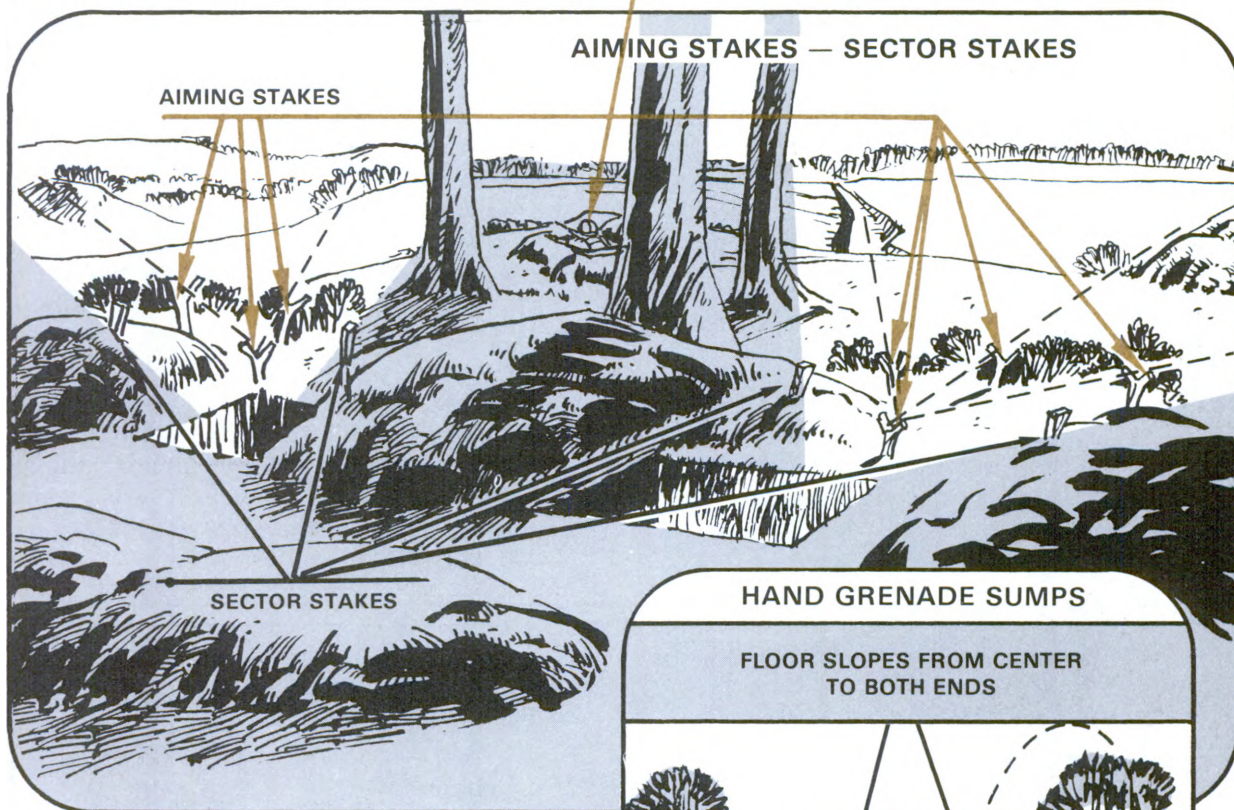
**Dig trenches for the bipod legs** of an automatic rifle to get it close to ground level.





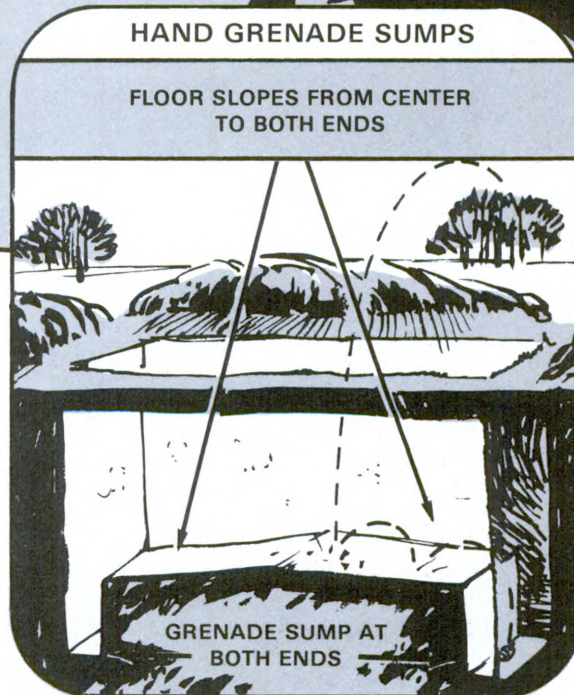
Use **aiming stakes**. This helps a soldier fire his rifle on dangerous approaches at night.

Use **sector stakes**, right and left, to define the sector of fire. They prevent accidental shooting into adjacent positions. Soldiers should not let stakes spoil a position's concealment.



**Slope the floor of the hole.** The floor should slope toward the grenade sumps. Water will run into the sumps and grenades will tend to roll into the sumps.

**Dig two trench-shaped hand grenade sumps.** One should be at each end of the position. The trenches are dug as wide as an intrenching tool blade, at least as deep as the intrenching tool, and as long as the position is wide. The slope of the floor should channel grenades thrown into the position into one of the sumps.

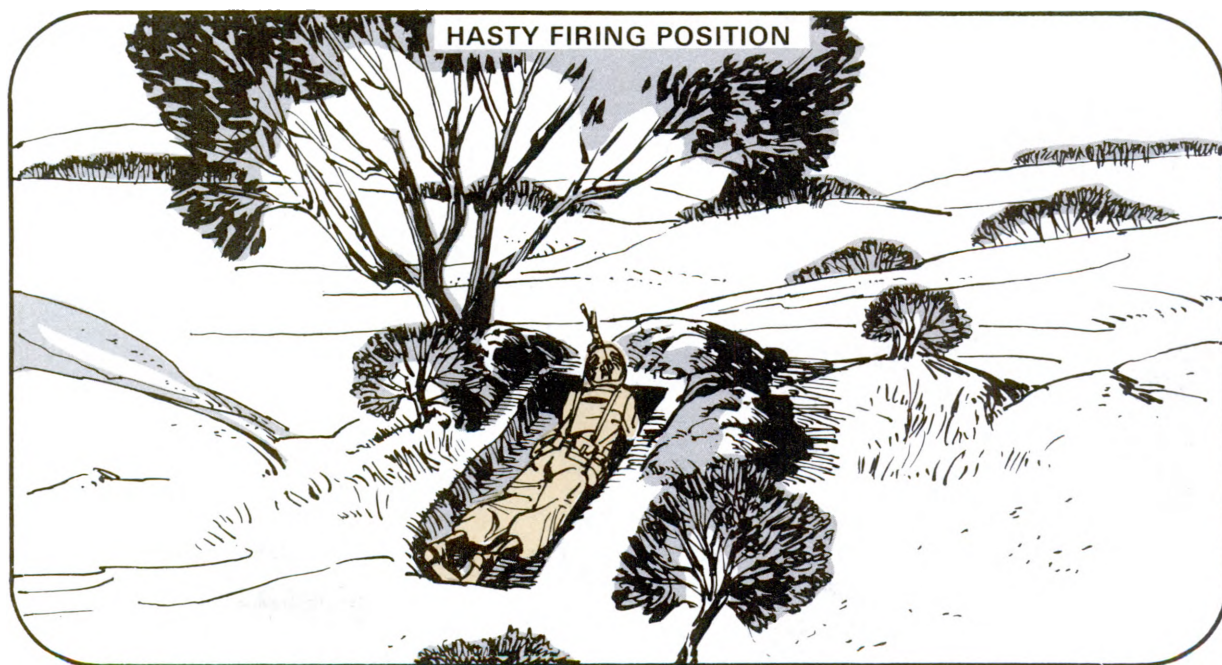


## VARIATIONS OF THE FIGHTING POSITION

A **hasty fighting position** is prepared when there is little or no time to prepare fighting positions. It is behind whatever cover is available. It should give frontal protection from direct fire but also allow shooting to the front and oblique. For protection from indirect fire, a hasty fighting position should be in a small depression or hole at least half a meter (18 in) deep.

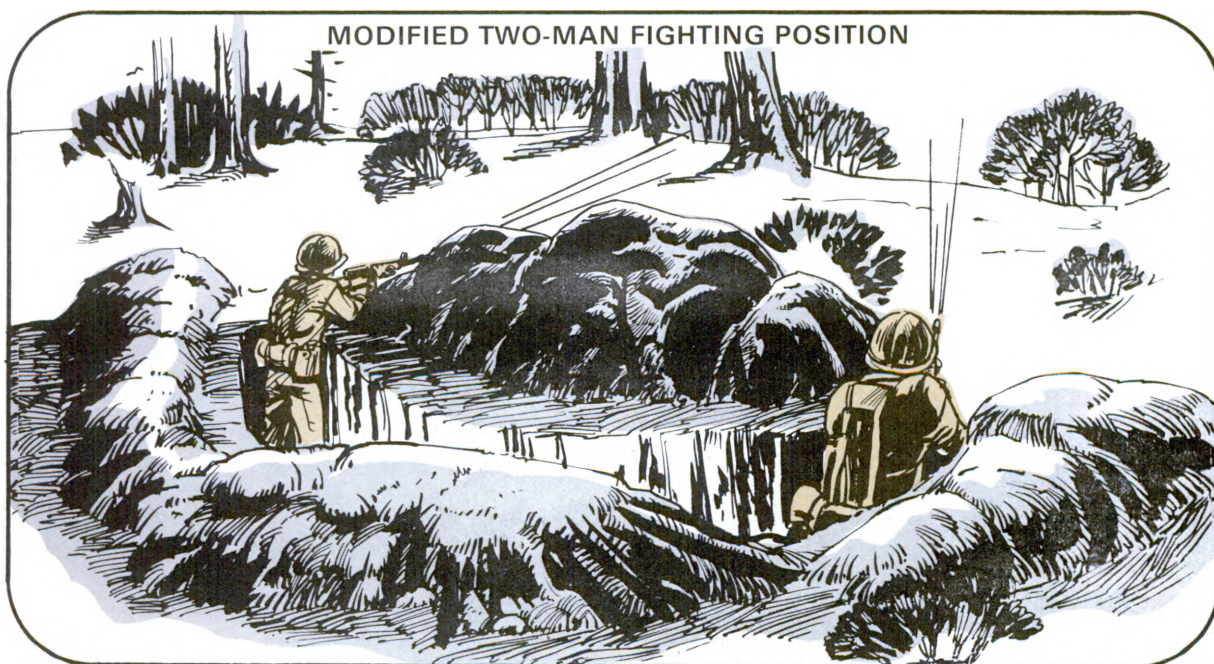
A **one-man fighting position** allows flexibility in the use of cover, as the hole only has to be long enough for one man and his gear. It does not have the security of a two-man position. It must let a soldier shoot to the front or to the oblique from behind frontal cover.

The term **hasty position** does not mean that there is no digging. Even if there are only a few minutes, a prone shelter can be scraped out or dug that will give some protection. (TEC Lesson 021-071-1044-F, Hasty Fighting Positions.)





A **modified two-man fighting position** may be prepared in close terrain, where grazing fire and mutual support extend no farther than to an adjacent position, or in order to cover deadspace just in front of the position. This is done by extending one or both ends of the hole around the sides of the frontal cover.



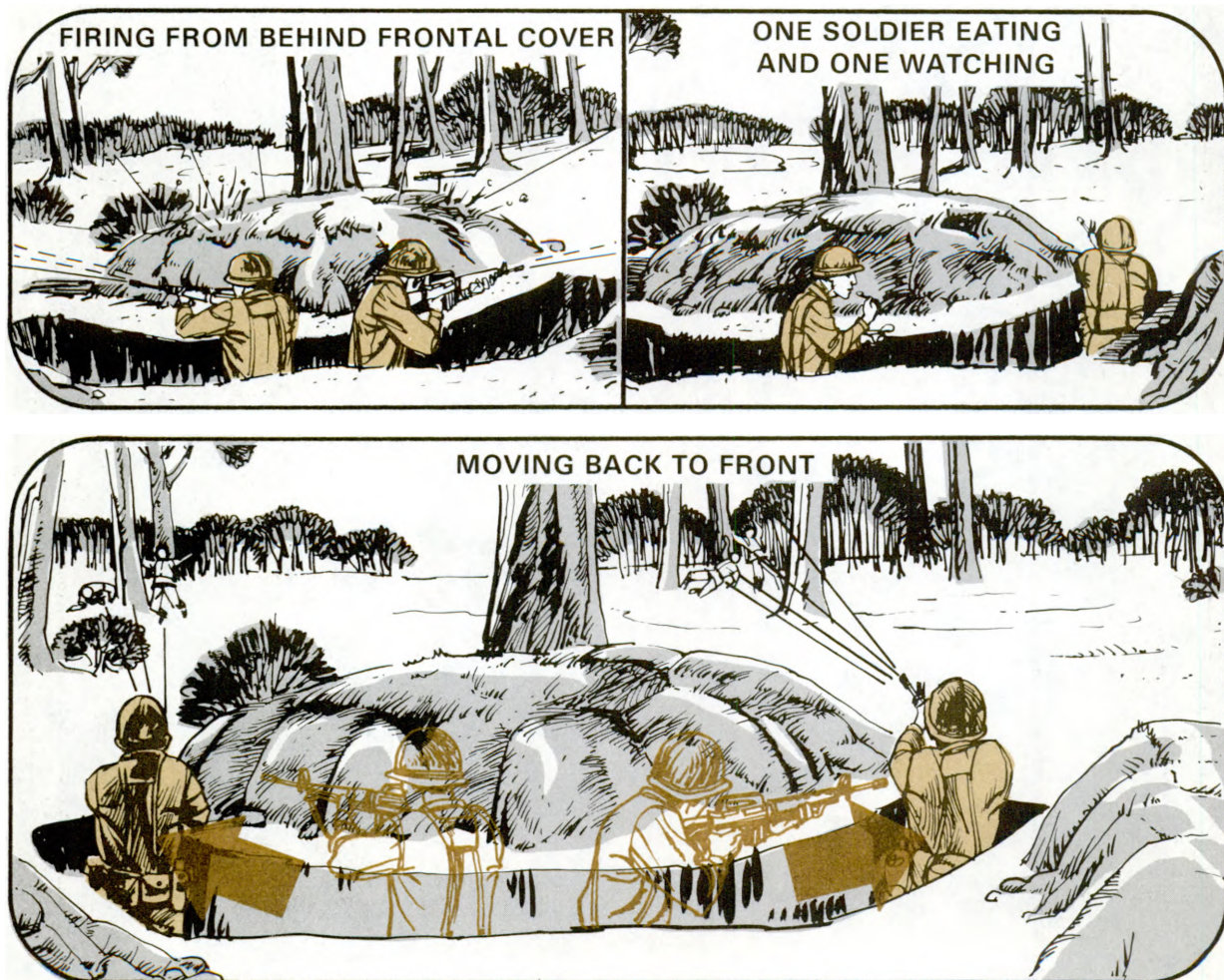


Changing a hole this way will let both soldiers see better and have greater sectors of fire to the front. This is also an advantage in rest or eating periods. One soldier can watch the entire sector of fire while the other sleeps or eats.

If they get fire from their front, they can move back to gain the protection of the frontal cover.

By moving about 1 meter, they can continue to find and hit targets to the front during lulls in the enemy fire.

This type of modified position needs more digging and is harder to camouflage. It also is a better target for enemy hand grenades.

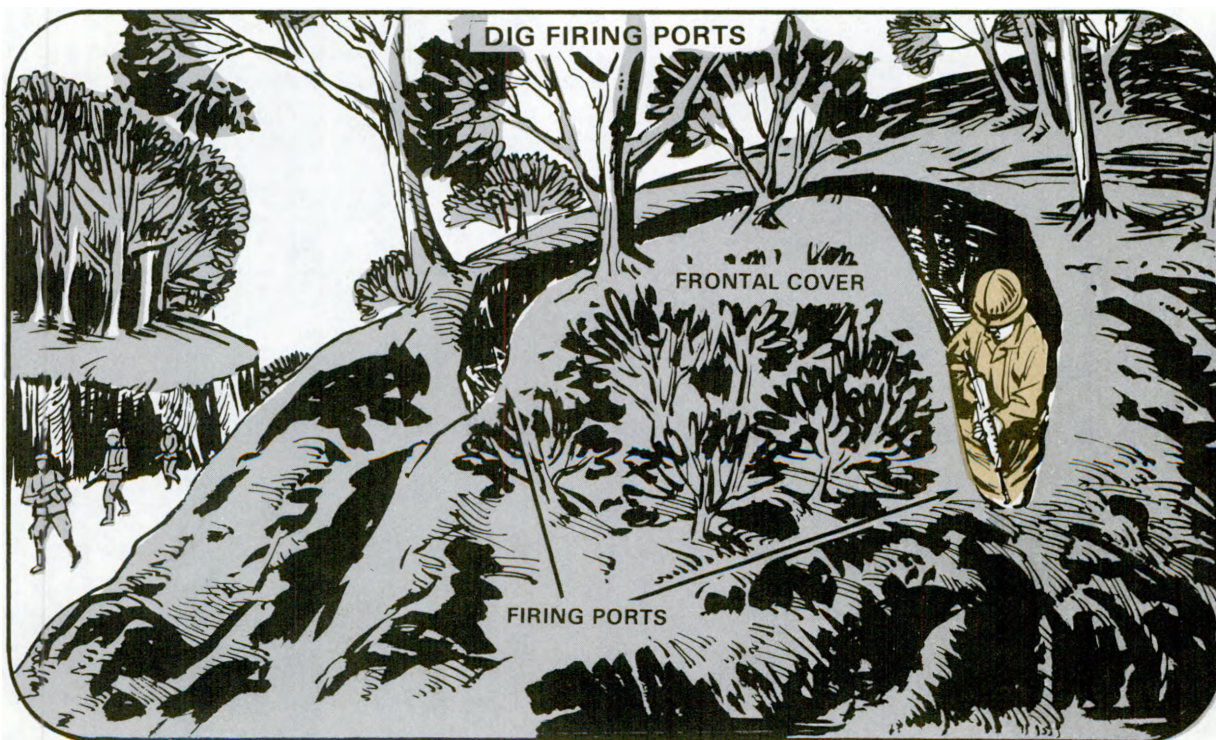
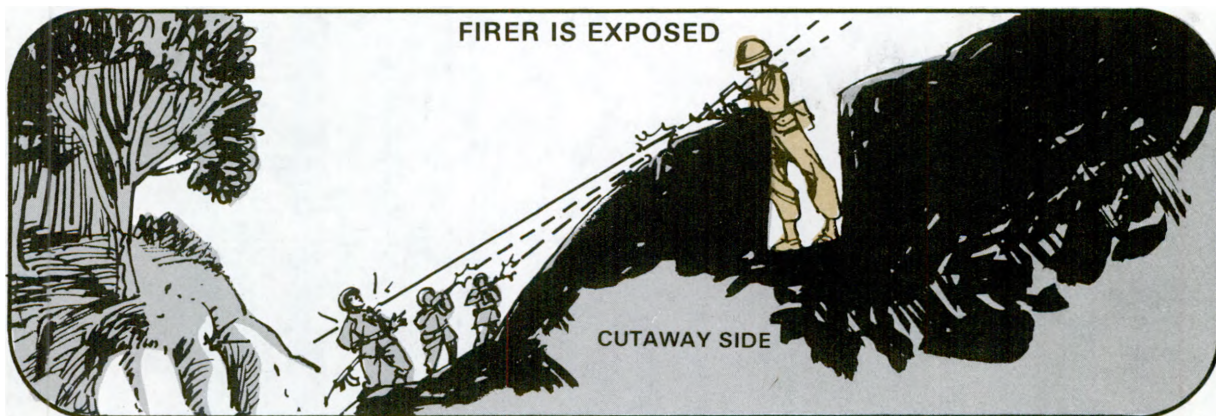




## POSITIONS ON STEEP TERRAIN

On a steep slope, a man in a hole behind frontal cover cannot shoot attackers without standing up and exposing himself too much.

To overcome this, the hole is dug and firing ports are dug out at each end of the hole. The ground between the firing ports then serves as frontal cover for the position.





## BUILDING OVERHEAD COVER

Frontal, flank, and rear cover and the hole give some protection from shell fragments, but overhead cover should be built to protect from airbursts. A good position has overhead cover that lets a man fire from underneath it.



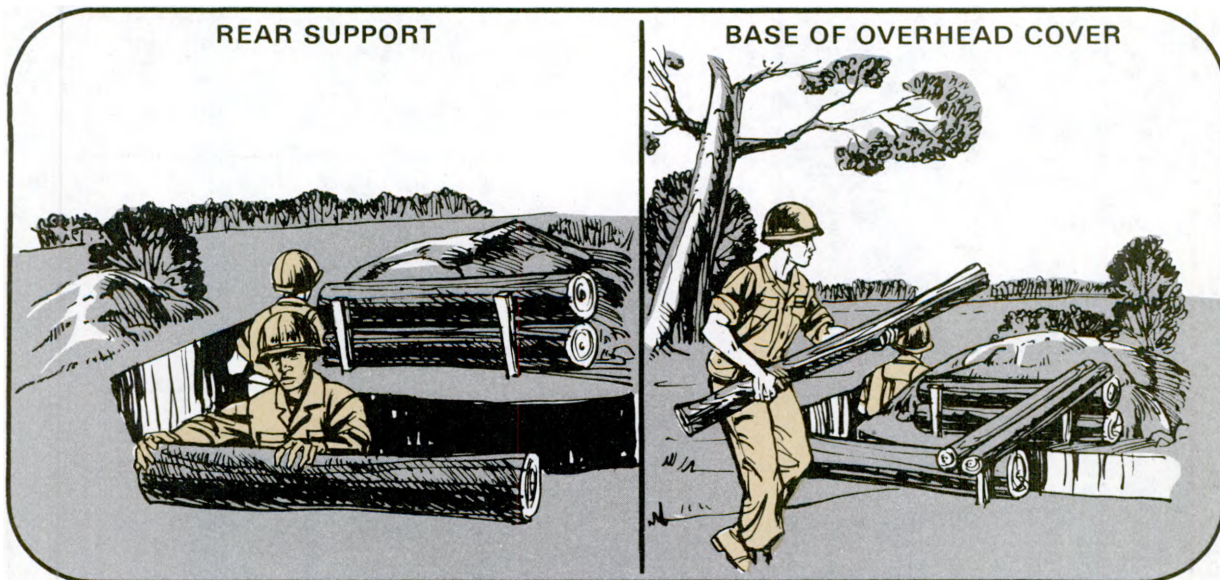
Support for overhead cover is built by placing logs 10 to 15 cm (4 to 6 in) on top of each other along the entire length of the frontal and rear cover.

The front supports are high enough so men can shoot from beneath the overhead cover when it is completed.





The base of the overhead cover is made of logs 10 to 15 cm (4 to 6 in) placed side by side across the supports.



A water-repellent layer, such as waterproof packing material from Dragon rounds or C-rations, or a poncho, is then laid over the logs.





## CAMOUFLAGE OVERHEAD COVER

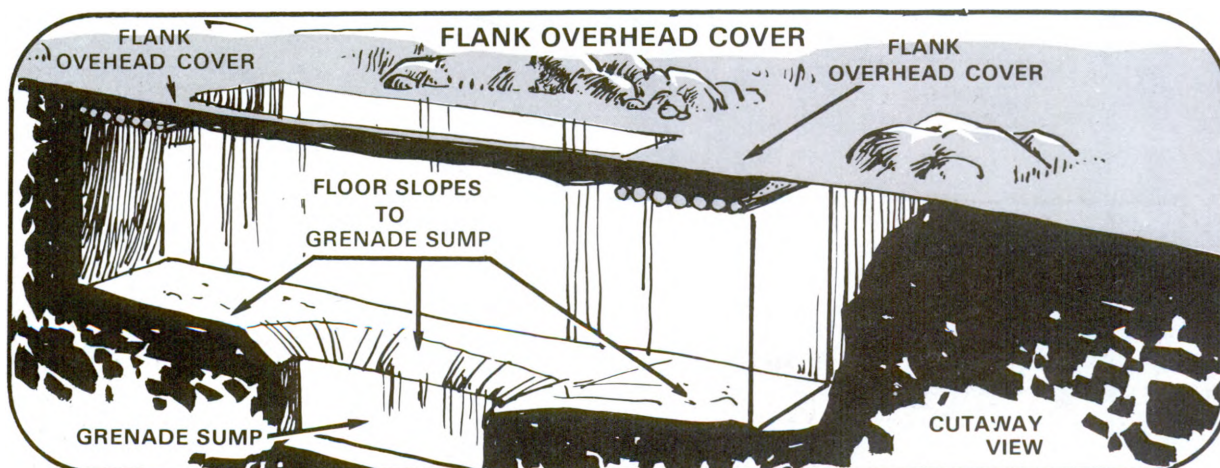


About 15 to 20 cm (6 to 8 in) of dirt is added and molded to blend with the slope of the terrain.

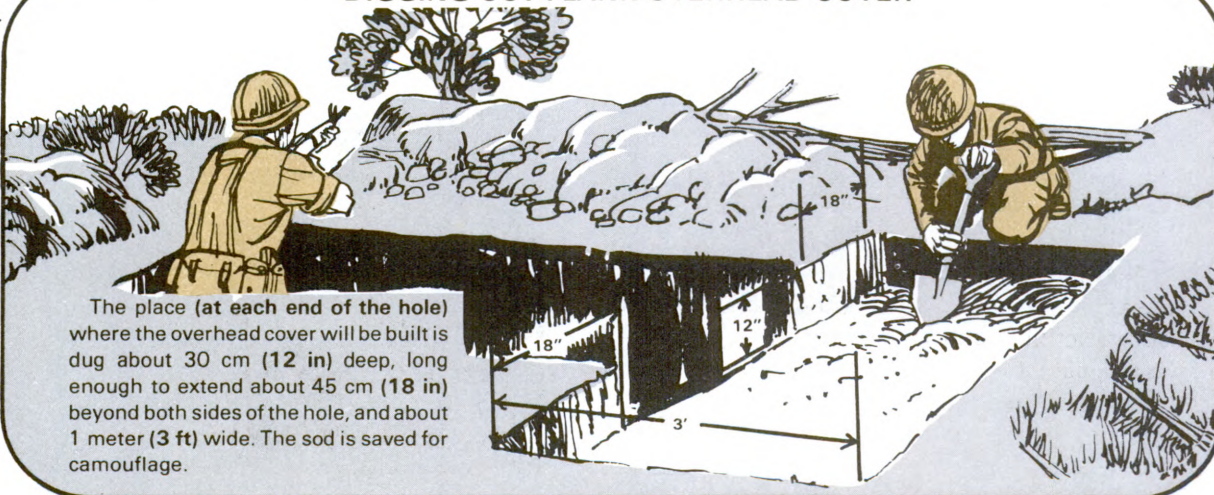
Finally, the overhead cover is camouflaged. When it is complete, the man in the position will have protection from shell fragments and still be able to shoot.

When flank overhead cover is built, there is only one grenade sump. It is dug in the center of the floor against the back wall. The floor is sloped toward it.

When overhead cover would make a position easy to see, it can be built off to both flanks.



## DIGGING OUT FLANK OVERHEAD COVER

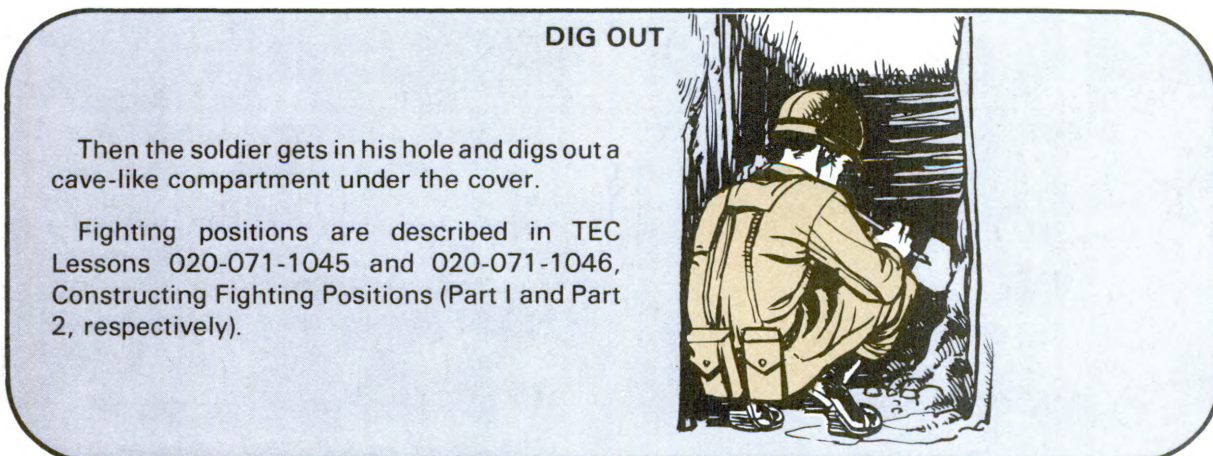
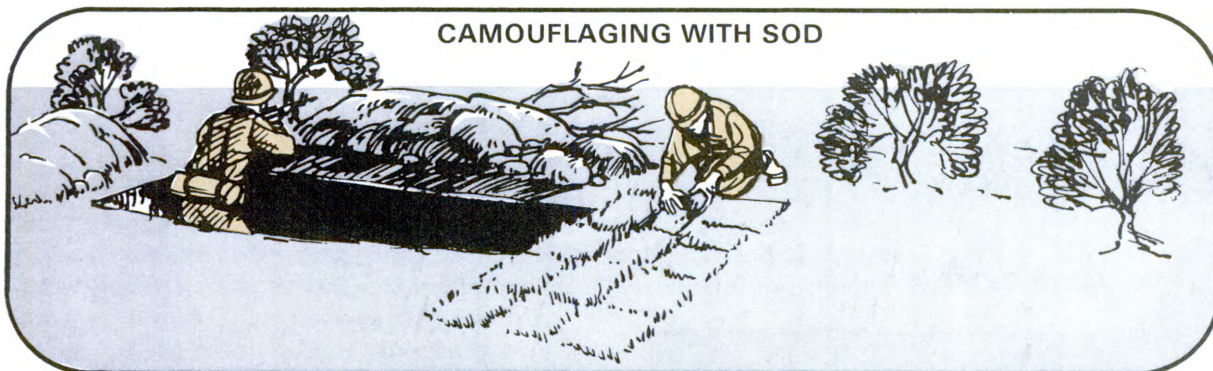
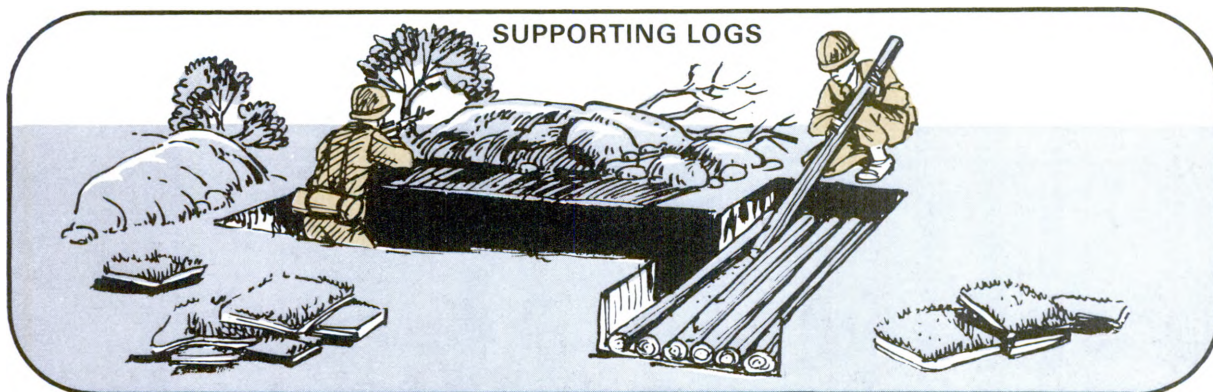


The place (at each end of the hole) where the overhead cover will be built is dug about 30 cm (12 in) deep, long enough to extend about 45 cm (18 in) beyond both sides of the hole, and about 1 meter (3 ft) wide. The sod is saved for camouflage.



Next, 10 to 15 cm (4 to 6 in) of supporting logs or planks are laid across that place to support the rest of the overhead cover material.

The logs are covered by piling 15 to 20 cm (6 to 8 in) of dirt on them. Sod is used to camouflage the dirt. It must look natural.



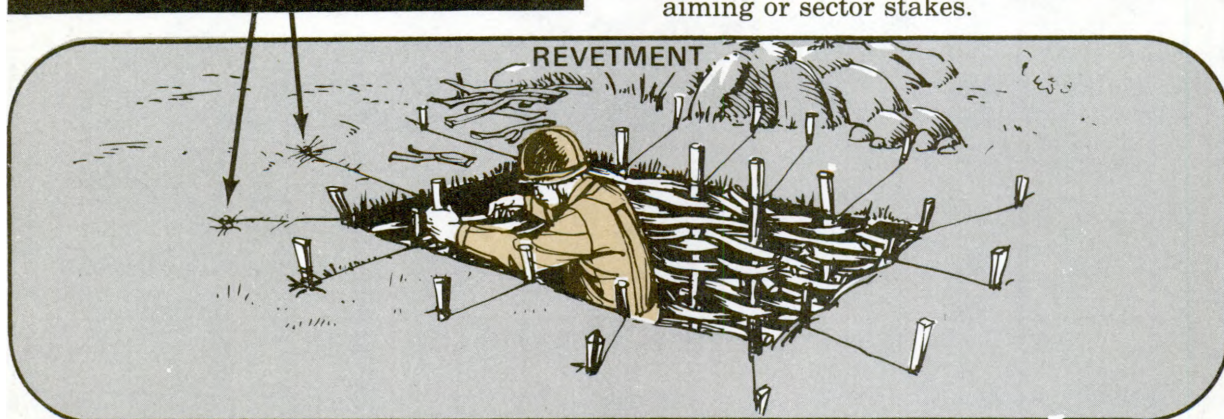


## REVETMENTS

Revetments are supports put against the sides of a fighting position to keep them from collapsing. Revetting is necessary when positions are dug in loose soil or in wet soil. Anything that will hold in the walls (wire, boards, logs, etc.) can be used to revet as long as it is staked and anchored. After anchor lines are attached to them, stakes are driven all the way into the ground. That hides them so they will not be mistaken for aiming or sector stakes.

### NOTE:

AFTER ANCHOR LINES ARE ATTACHED, STAKES ARE DRIVEN ALL THE WAY INTO THE GROUND.

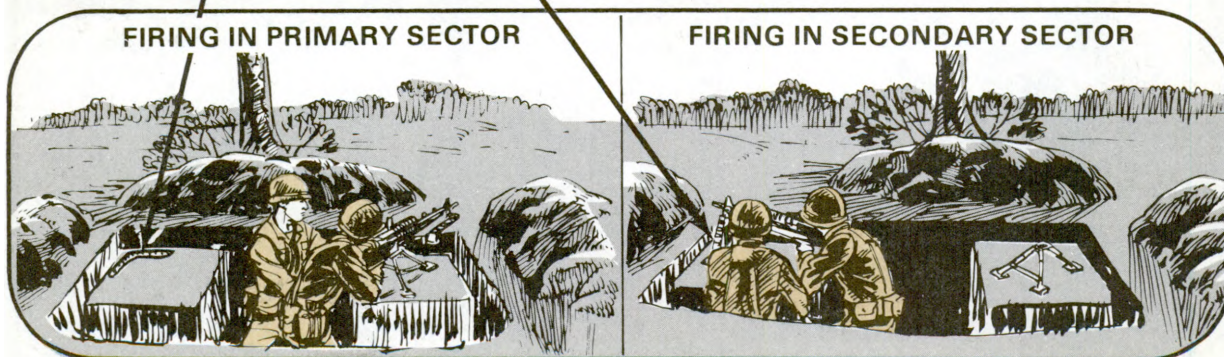


## MACHINEGUN POSITIONS

The primary sector of fire is usually to the oblique so the gun can fire across the platoon's front. The tripod is used on the side with the primary sector of fire, and the bipod legs are used on the side with the secondary sector. When changing from primary to secondary sectors, the machinegun is moved but the tripod stays in place. The bipod is used in the secondary sector.

### NOTE:

DIG A TRENCH FOR THE MACHINEGUN'S BIPOD LEGS IN THE SECONDARY SECTOR.





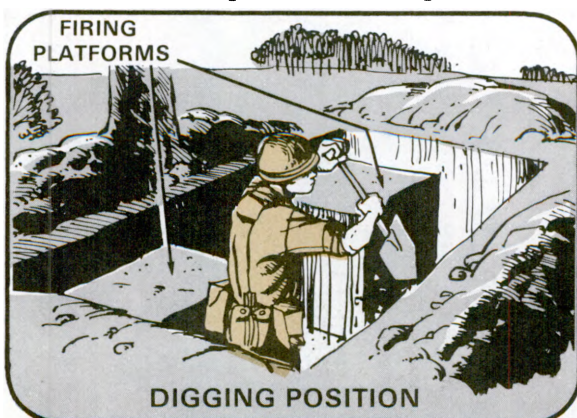
Occasionally, a sector of fire which allows firing directly to the front is assigned, but this can reduce the amount of frontal cover for the crew when firing to the oblique.

## HOW TO PREPARE A MACHINEGUN POSITION

After the platoon leader has positioned a machinegun and has assigned sectors of fire and a PDF or FPL, the crew marks the position of the tripod legs and the limits of the sectors of fire. The crew then traces the outline of the hole and the frontal cover (if it must be improved).

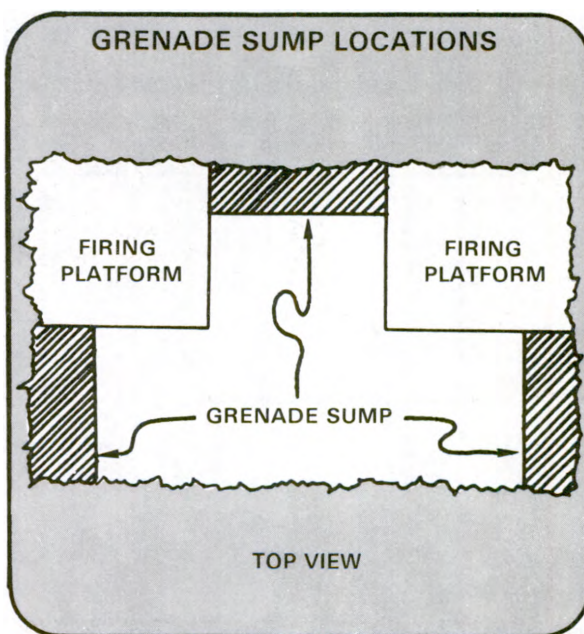


The gun is lowered by digging down the firing platforms where the machinegun will be placed. The platforms must not be so low that the gun cannot be traversed across its sectors of fire. Lowering the gun reduces the profile of the gunner when he is shooting and reduces the height of the frontal cover needed. The crew digs the firing platforms first to lessen the crew's exposure if it has to shoot before the position is complete.



After the firing platforms have been dug down, the crew digs the hole — placing the dirt first where frontal cover is needed. The hole is dug deep enough to protect the crew and still let the gunner shoot the gun with comfort. This is usually about armpit deep. When the frontal cover is high and thick enough, the rest of the dirt is used to build the flank and rear cover.

Three trench-shaped grenade sumps are dug at various points so that either crew member can kick a grenade into one if he has to.

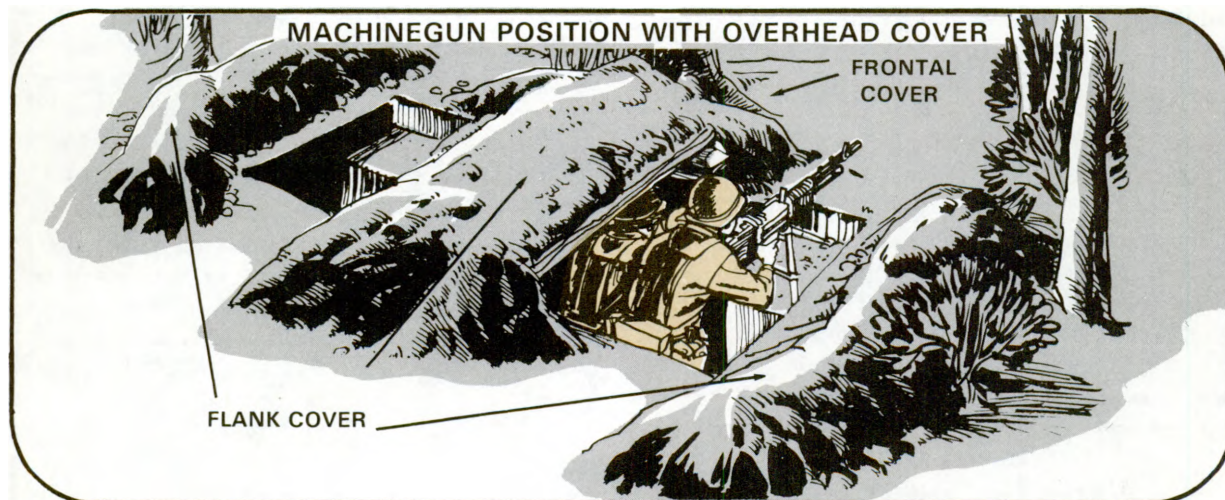


In some positions, a machinegun may not have a secondary sector of fire; so, only half of the position is dug.

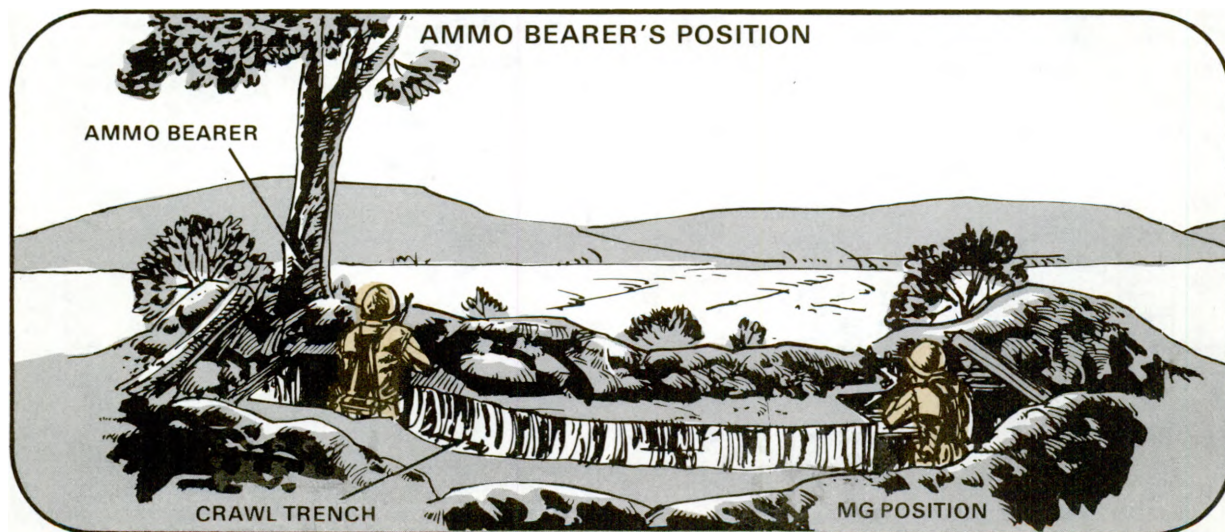




Overhead cover for a machinegun position is built like that of a two-man position.



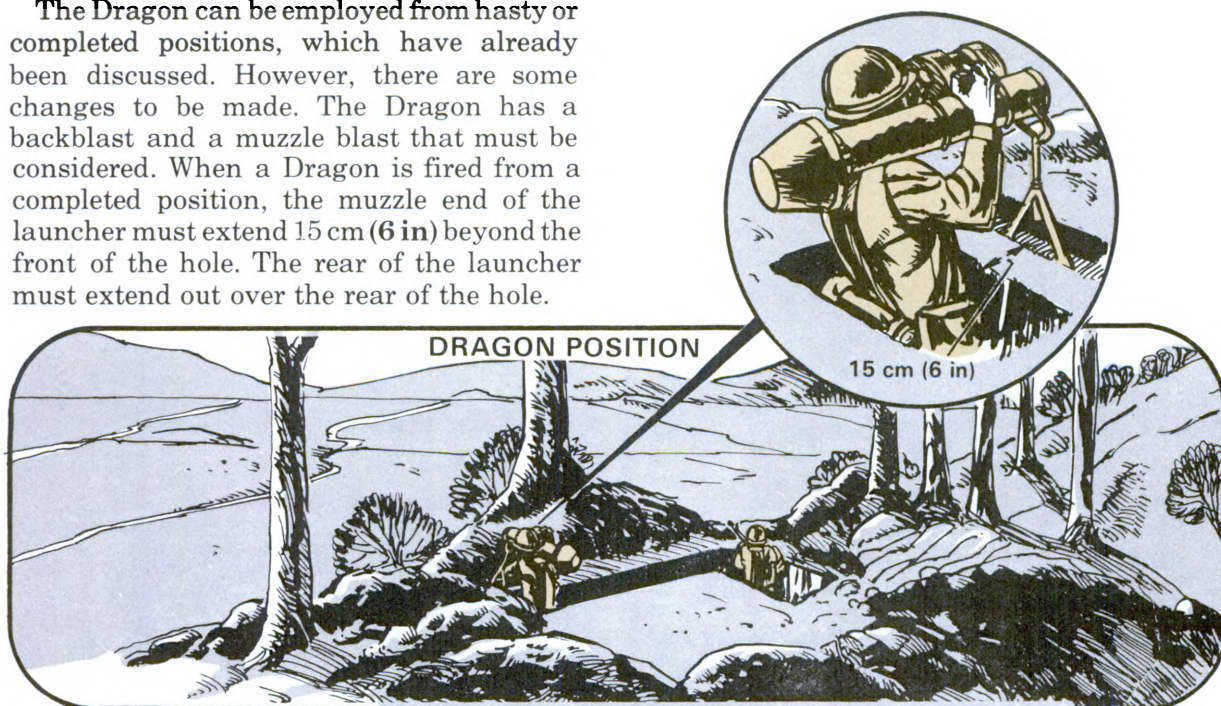
When there is a three-man crew for a machinegun, the ammunition bearer digs a one-man fighting position to the flank. This must be where he can see and shoot to the front and to the oblique. Usually, the ammunition bearer is on the same side as the FPL or PDF so that he can see and shoot his rifle into the machinegun's secondary sector, and at the same time see the gunner and assistant gunner. The ammunition bearer's position is connected to the gun position by a crawl trench so he can bring ammunition over or replace one of the gunners.





## DRAGON POSITIONS

The Dragon can be employed from hasty or completed positions, which have already been discussed. However, there are some changes to be made. The Dragon has a backblast and a muzzle blast that must be considered. When a Dragon is fired from a completed position, the muzzle end of the launcher must extend 15 cm (6 in) beyond the front of the hole. The rear of the launcher must extend out over the rear of the hole.



As the missile leaves the launcher, stabilizing fins unfold. So the weapon is kept at least 15 cm (6 in) above the ground when fired, to leave room for the fins. The hole is only waist deep to allow the gunner to move while tracking a target. Because of the height of the Dragon gunner above ground level, the frontal cover should be high enough to hide his head and, if possible, the backblast of the Dragon. A hole is dug in front of the position for the bipod legs.





There will be times when the Dragon can be shot only in one direction. The position is adjusted to have cover and concealment from all other directions.

When the Dragon is to shoot in only one direction, it should be to the oblique so that the position is protected from frontal fire and the target is engaged from the flank.

### FIRE ONLY TO THE OBLIQUE



1

GUNNER FIRE TO THE FRONT FROM HERE.

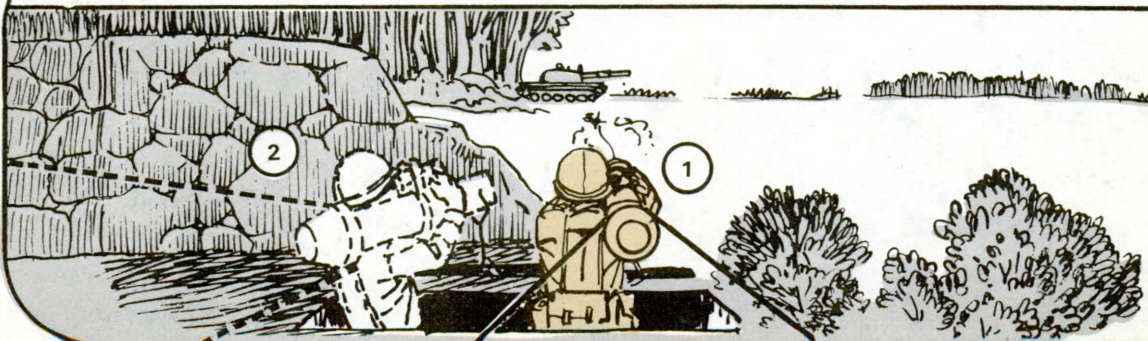
Both ends of the launcher must extend out over the edges of the hole.

2

GUNNER FIRES TO THE OBLIQUE FROM HERE.

Overhead cover is built on the flanks of a Dragon position. It should be large enough for the tracker and missiles as well as the gunner. Overhead cover that would allow fire from underneath it can be built if the backblast area is clear. However, this overhead cover would be so high that it would be easy for the enemy to spot.

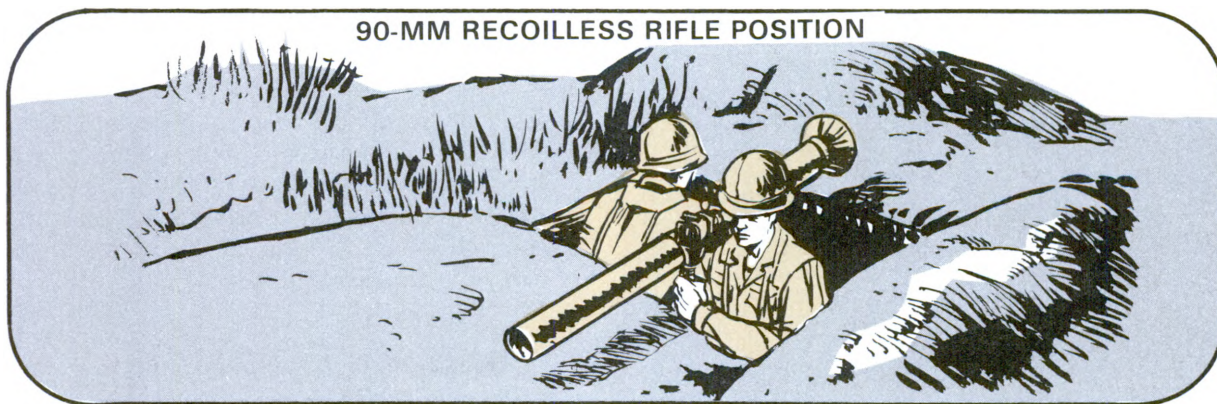
### FIRE TO THE FRONT AND TO THE OBLIQUE.





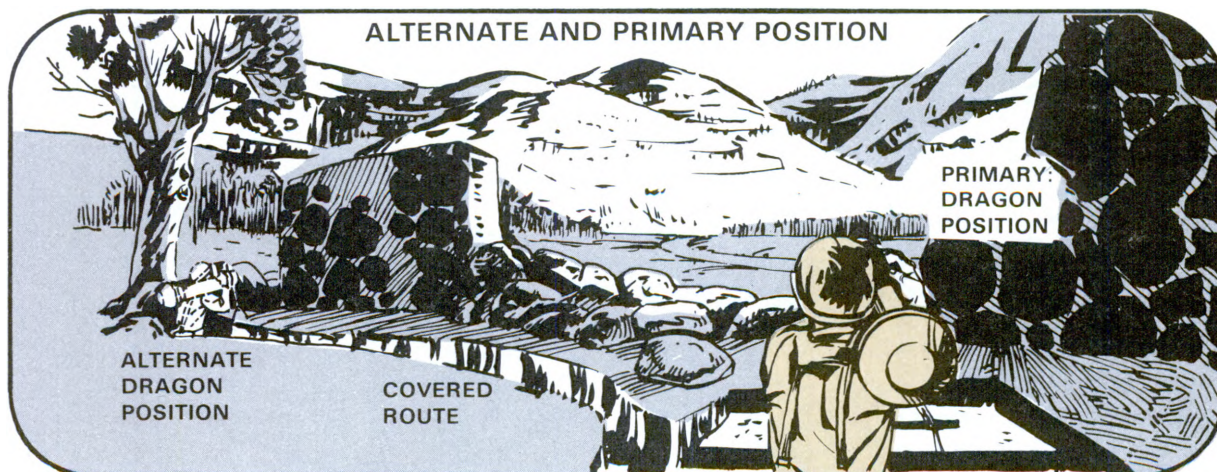
## 90-MM RECOILLESS RIFLE POSITION

Positions for the 90-mm RCL.R can be built like Dragon positions. But, as it takes two men to operate this weapon, the hole must be a little longer when shooting to the right side of the frontal cover. This lets the assistant gunner work from the right side of the RCLR.



## ALTERNATE POSITIONS FOR WEAPONS

Alternate positions are prepared as time permits. Selecting and preparing alternate positions for a Dragon have a high priority, as the Dragon is an important weapon and is relatively easy to detect. When an alternate position is prepared, a covered route to it should be selected and improved so the Dragon gunner can move to it under fire.





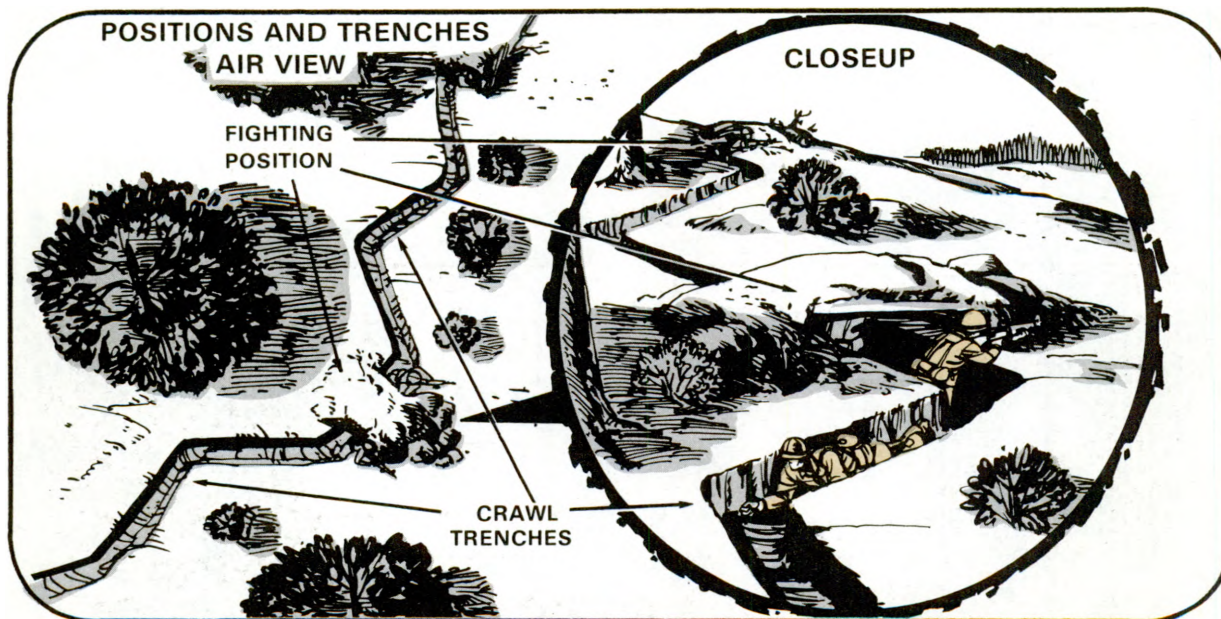
## LAW AND FLASH



The LAW and the FLASH can be fired from infantry fighting positions. Other fighting positions must not be in the backblast area. The gunner should see if any walls, large trees, or other objects are to the rear that could deflect the backblast. If the LAW or FLASH is to be fired from a two-man position, the gunner must insure that the other man is not in the backblast area. The front edge of a fighting position is a good elbow rest to help the gunner steady the weapon and gain accuracy. Stability is better if he leans his body against the front or side wall of the hole.

## TRENCHES

When there is time and help, trenches should be dug to connect fighting positions so men can move by covered routes. The depth of a trench depends on the type of help and equipment available to build it. Without engineer help, crawl trenches (about 3 ft deep by 2 ft wide) are usually dug. The trench should zigzag so the enemy will not be able to shoot down a long section of it.

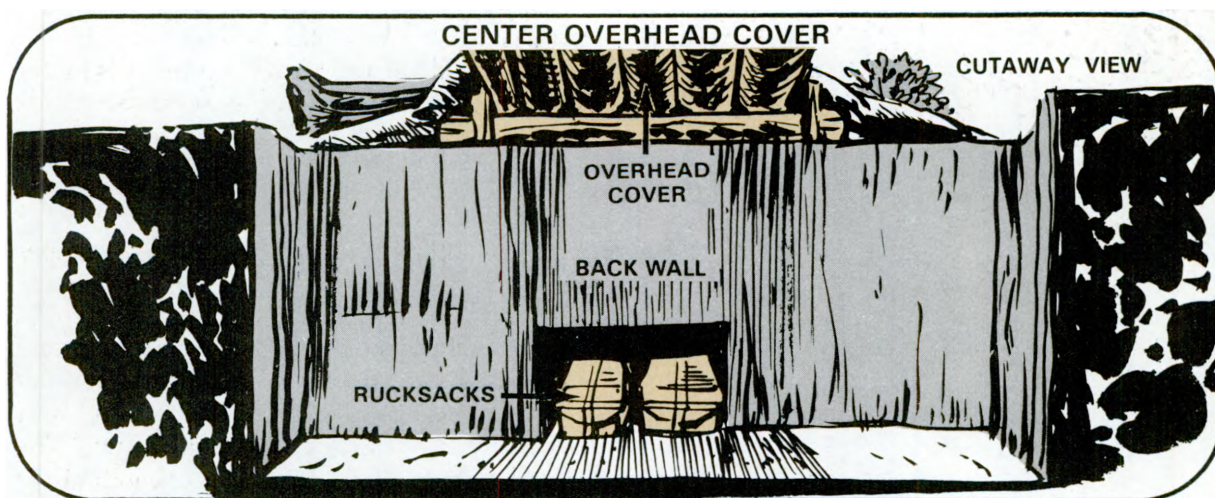




## STORAGE COMPARTMENTS

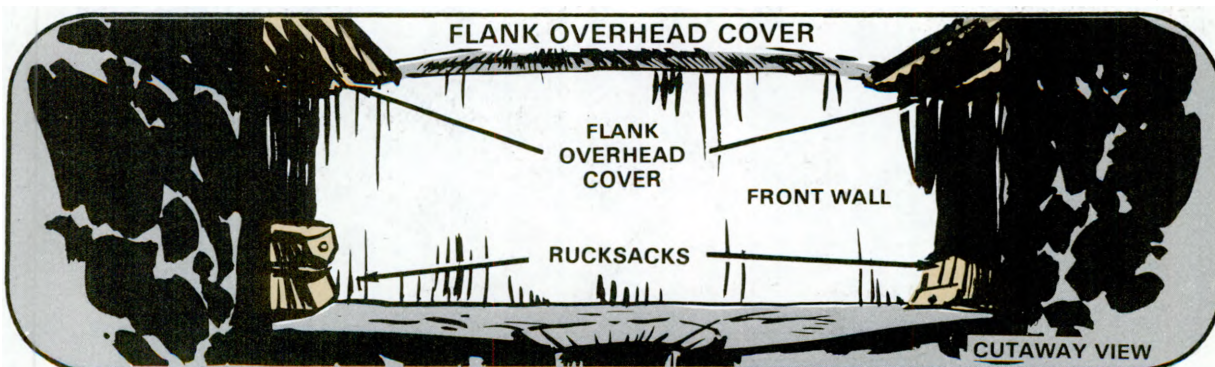
A fighting position should have a place in which to store equipment and ammunition. This protects them and keeps them out of the way.

When a position has overhead cover across its center, a storage compartment is dug in the bottom of the back wall. Its size depends on the amount of equipment and ammunition to be stored.



When a position has flank overhead cover, the compartments dug for the overhead cover are used for storage compartments also.

If a storage compartment is dug large enough, it may provide extra space in which a soldier can stretch out while sleeping. That lets him sleep inside his position and under cover.







## APPENDIX E

## HOW TO GET THE FIRE OF NONORGANIC SUPPORTING WEAPONS ON TARGET

An infantry platoon may be supported by many weapons not organic to it. Usually, a platoon can expect support from the company's TOWs and mortars, from the battalion's TOWs and mortars, and from a field artillery unit. An infantry battalion normally has 105-mm howitzers or other field artillery in direct support. There may be tanks attached to the company that can support the platoon. USAF aircraft may at times add more fire support. Leaders must be able to get the fire of these weapons "on target."

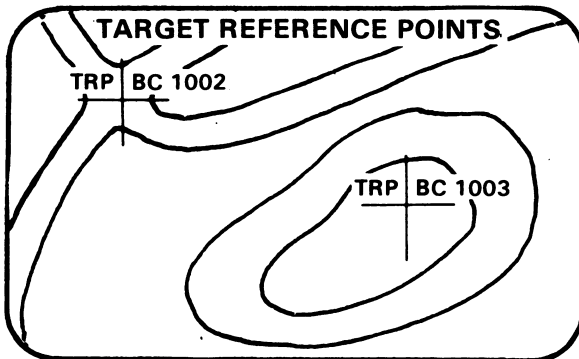


### PLANNING INDIRECT FIRE

Each rifle company has a fire support team (FIST) working with it. The FIST helps the company commander plan, call for, and adjust indirect fire. Normally, a platoon will have a forward observer (FO) team (an FO and a radiotelephone operator) supporting it. This team helps the platoon leader plan and use his supporting fire. The team calls for and adjusts indirect fire. It moves with the platoon leader.

When a platoon leader develops a scheme of maneuver, he must plan fire to support it. Some targets are planned by company and battalion commanders, but the platoon leader must determine what, if any, additional targets he wants planned to support his platoon.

The plan should include fire on known, suspected, or likely enemy positions and on prominent terrain features. A planned target can be used as a reference point for quickly getting fire on targets of opportunity. Except for specific point targets, there is no need to plot targets closer together than 400 meters. Closer plotting than that would complicate the fire plan and would not necessarily make fire more responsive. Targets are numbered and recorded. Targets planned for direct fire weapons such as machineguns, Dragons, tanks, and TOWs are called target reference points (TRP). They are assigned target numbers by the FO just like other targets.



In the offense, to keep the enemy from reinforcing and to protect the unit from counterattack, the platoon leader and FO plan —

- targets on the approaches short of the objective,
- targets on the objective, and
- targets beyond and to the flanks of the objective.

In the defense, withdrawal, or delay, the platoon leader and FO plan —

- targets on enemy avenues of approach; on obstacles; and on, behind, and to the flanks of friendly positions; and
- final protective fire (FPF) where it will break up enemy assaults on the position.

## REQUESTING INDIRECT FIRE

When a platoon does not have an FO, the platoon leader sends the call-for-fire to either the FIST chief (who is with the company commander) or to the fire direction center (FDC) of the company's mortars.

A call-for-fire is a message prepared by an observer. It has all the information needed by a field artillery or mortar FDC to have the target hit as requested. A call-for-fire is normally sent as three parts with a break and a readback after each part. The three parts, in sequence, are:

1. Observer identification and warning order.
2. Target location.
3. Description of target, method of engagement, and method of fire and control.



**NOTE:**

Refer to the foldout in this appendix for examples of these parts.

### 1. Observer Identification and Warning Order.

■ The observer identification tells the FDC who is calling. It also clears the net for the rest of the call.

■ The warning order tells the FDC the **type of mission** and the **method of locating the target**.

—————**Type of mission:**—————

**Adjust fire.** This type of mission is used when the observer is uncertain of the exact location of the target. The observer says, ADJUST FIRE.

**Fire-for-effect.** The observer should always try for first round fire-for-effect. But, he should only use a first round fire-for-effect if he is **sure** that his target location is correct. He should also be **sure** that the rounds of the first volley will have the desired effect on the target so that little or no adjustment will be required. The observer says FIRE-FOR-EFFECT.

**Suppression.** This is used to quickly bring fire on an inactive (**not presently**

**firing**) target. The observer says SUPPRESS (followed by the target identification).

**Immediate suppression.** This is used to quickly bring fire on a planned target or target of opportunity that is firing at a friendly unit or aircraft. The observer says IMMEDIATE SUPPRESSION (followed by the target identification).

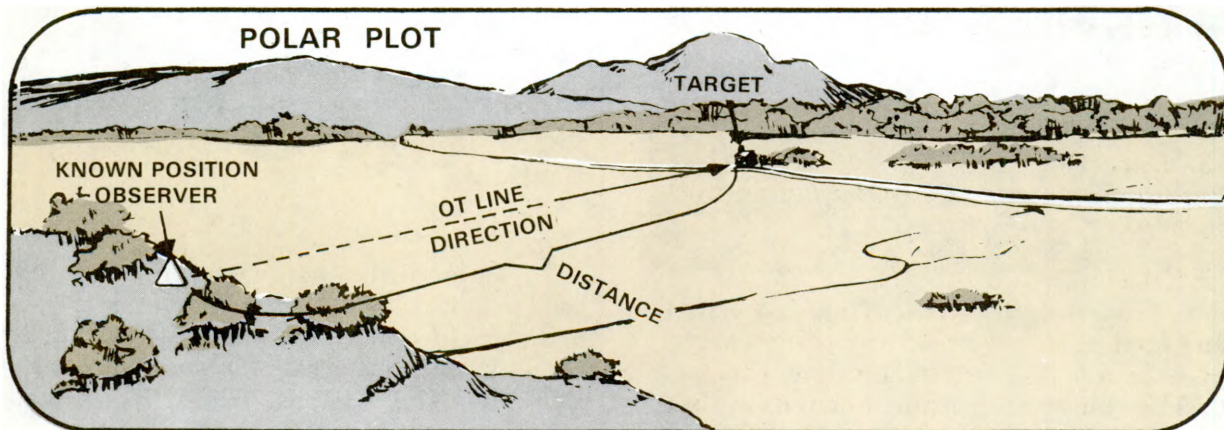
### 2. Target Location.

■ This part of the warning order prepares the FDC for receiving and applying the data sent by the observer to locate the target. The three methods for locating targets are **grid**, **polar**, and **shift from a known point**. Only **polar** and **shift** are announced to the FDC. If the observer does not say either polar or shift, then the FDC knows that the grid method is being used. The word "grid" is not used in the warning order part.

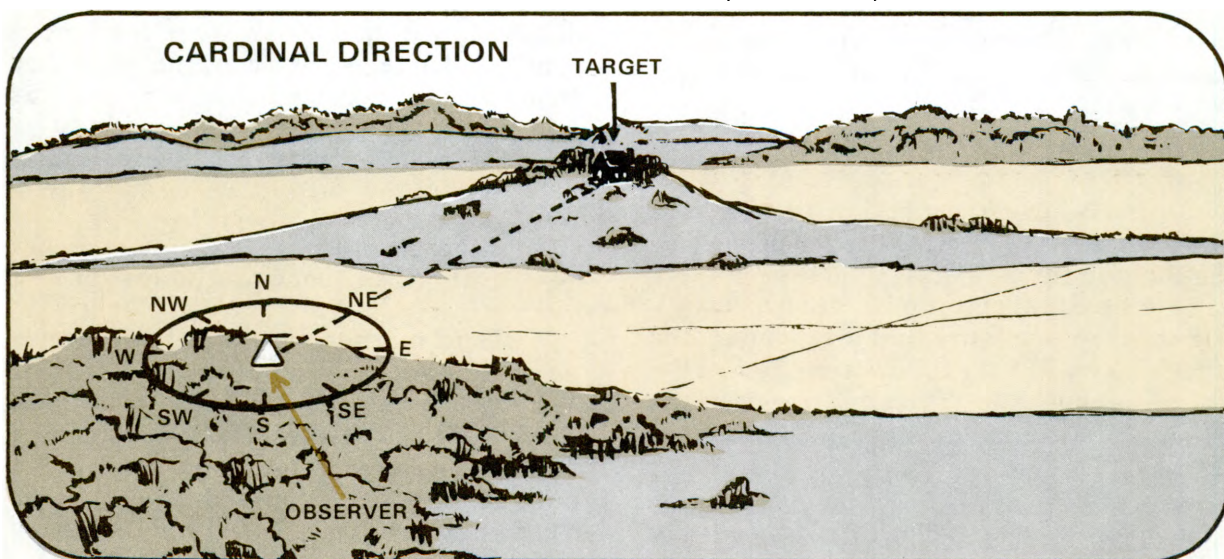
—————**Methods of locating the target**—————

**Grid method.** The target location is normally sent in six digits (**Example: GRID 180739**) or as a known point (**Example: ROAD JUNCTION R5**). The direction from the observer to the target (**in mils, if possible**) must be given to the FDC after the call-for-fire but before the first adjusting rounds are shot.

**Polar-plot method.** This method requires that the observer and the FDC know the observer's exact location. The observer determines the direction (to the nearest 10 mils) of the observer-target (OT) line and the distance (to the nearest 100 meters) from his position to the target.



**Shift-from-a-known-point method.** If the observer and the FDC have a common known point — for example, road junction, TRP, or planned target — the target can be located by first finding the direction to the target (OT line) to the nearest 10 mils. If the observer has no compass, the FDC can be given a cardinal direction, for example, north, southwest, etc.

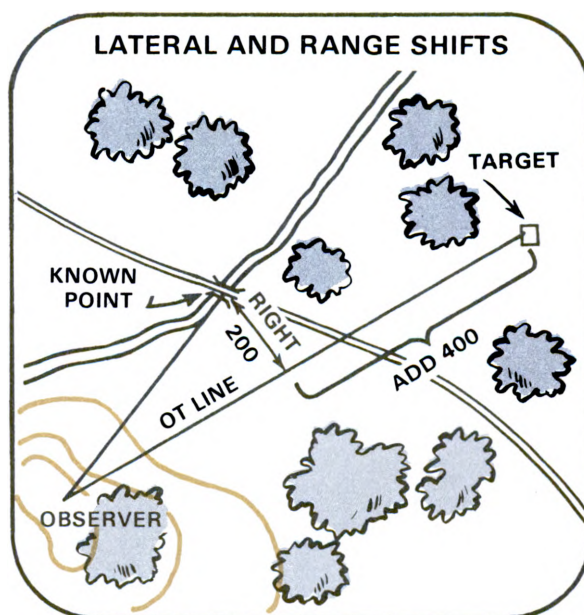




The observer then determines the lateral and range shifts. Lateral shifts are left or right from the known point to the OT line and are given to the nearest 10 meters. Range shifts are given as ADD (when target is beyond the known point) or DROP (when target is closer than the known point). Range shifts are given to the nearest 100 meters.

### 3. Description of Target, Method of Engagement, and Method of Fire and Control.

■ **Description of target.** In this part of the call-for-fire, the observer must describe the target so that the FDC can determine the type and amount of ammunition to shoot at it. The description should be brief but accurate. It should contain the following:



	(EXAMPLES)	
WHAT THE TARGET IS:	Tanks and dismounted infantry, or truck convoy, or artillery battery.	
WHAT THE TARGET IS DOING:	Attacking, or digging in, or moving on Route 45, or firing.	
STRENGTH OF THE TARGET:	Company of infantry with 10 tanks, or 20 trucks, or 6 guns.	
DEGREE OF PROTECTION:	In open, or dug in, or in bunkers with overhead cover.	
TARGET SHAPE AND SIZE:	Generally used for linear (trenchlines or roads), circular (assembly areas or strongpoints), or rectangular targets. Example:	
	SHAPE	SIZE
	Linear	Grid 186278, Length 800 meters, Attitude 2150 (azimuth of target's long axis). or Grid 186278 to 192284.
	Circular	Radius 200.
	Rectangular	400 by 200, Attitude 3450 (azimuth of target's long axis).

■ **Method of engagement.** In this part of the call-for-fire, the observer tells how he wants to attack a target. It consists of the type of adjustment, trajectory, ammunition, and distribution. (This manual will not discuss distribution because it is too technical for this level.)

**Type of adjustment.** The observer can adjust for **precision** fire or **area** fire. Unless **precision** fire is specified, **area** fire will always be used.

#### PRECISION FIRE

**Precision fire** is used to destroy a point target (a bunker or a disabled vehicle) with a single artillery piece — the observer will say DESTRUCTION. (This type fire mission should be avoided. It is usually better to destroy such targets with direct fire.)

#### AREA FIRE

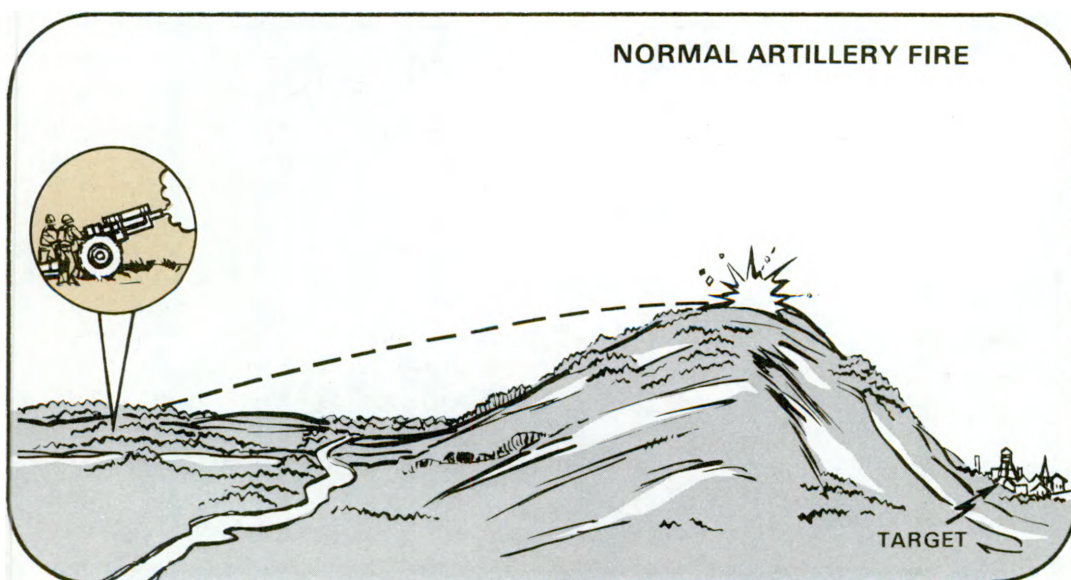
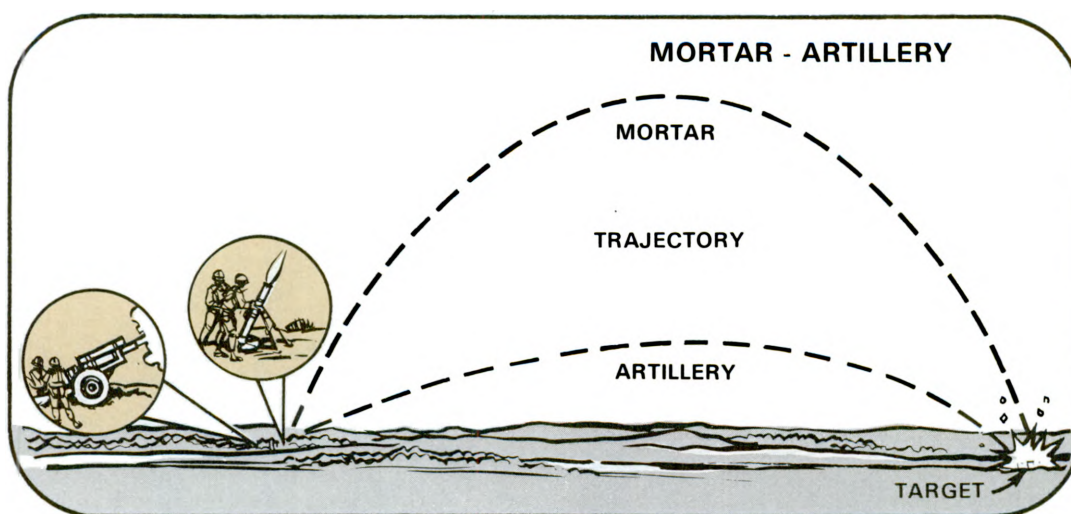
**Area fire** is used to attack a group of targets, probably moving, so fire adjustment must be quick to keep the target from escaping. The observer should pick a well-defined point at or near the center of the area target as the aiming point.

The term “danger close” must be used in the method of engagement when the target is within 600 meters of friendly troops when supported by field artillery, and when it is within 400 meters when supported by mortars.



**Trajectory.** Trajectory is the path of a round from the gun to the target. Artillery rounds normally have a relatively low-angle trajectory. Mortar rounds have a high-angle trajectory.

If a target is behind a steep hill or in a gully or ravine, normal artillery fire may not be able to hit the target.



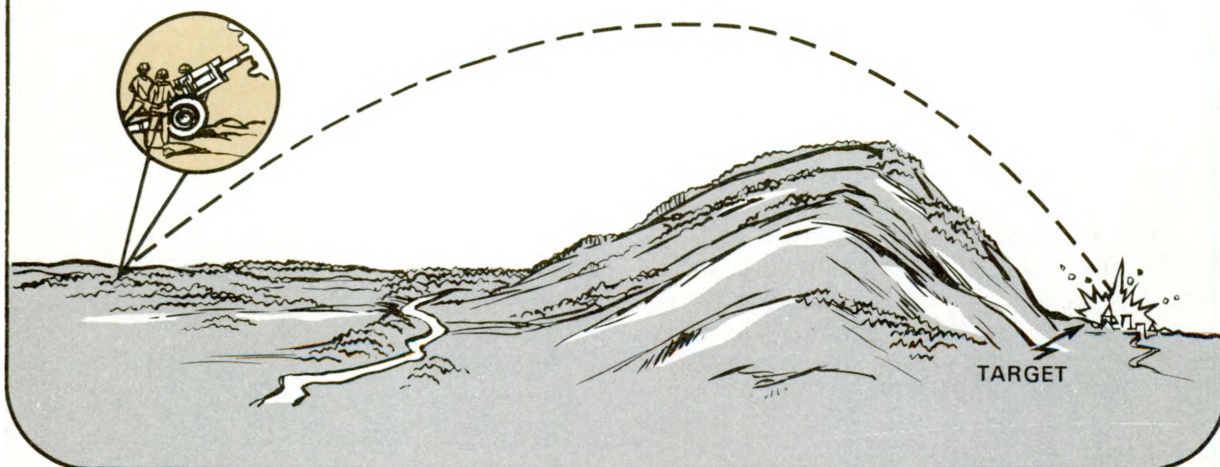
In order to hit such a target, high-angle fire must be used. If a high-angle trajectory is required, the observer must request it from the FDC immediately after the type of adjustment. This is not necessary with mortar fire.

**Ammunition.** If the type of round (HE, illumination, Improved Conventional Munitions [ICM] [artillery only], WP, and smoke) is not specified, HE will be fired for the adjustment and the fire-for-

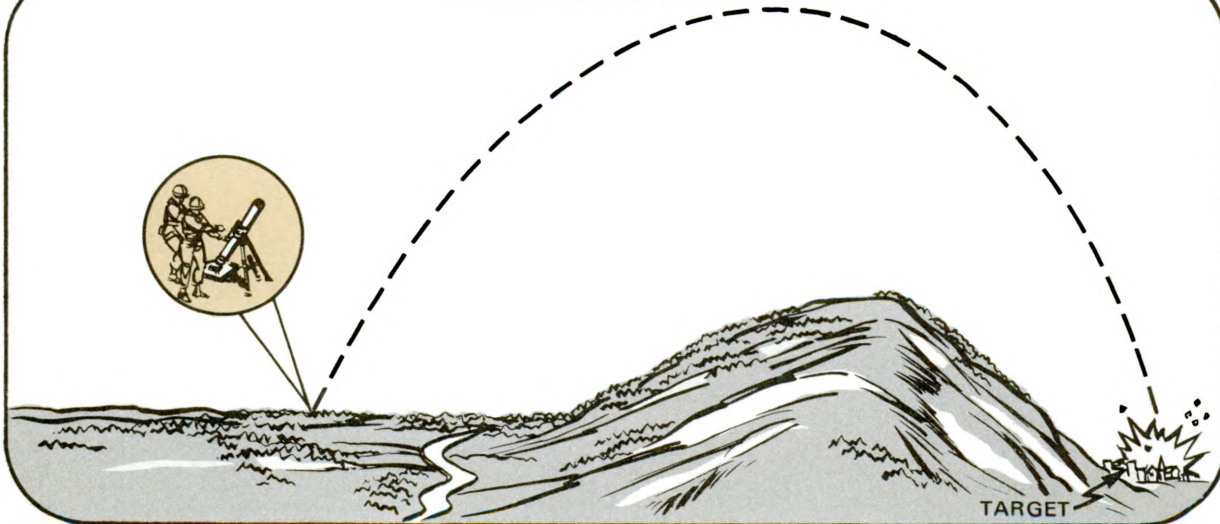
effect. There is also a variety of fuzes (quick, time, concrete-piercing, and variable time [VT]). Again, unless specified, fuze quick will be used in adjustment and in fire-for-effect. The number of rounds may be requested by the observer in the fire-for-effect; for example, 3 rounds mean a battery of 3 volleys, or 18 rounds.

If none of the above methods are requested, the FDC will pick the best method to use.

ARTILLERY HIGH - ANGLE FIRE



NORMAL MORTAR FIRE





■ **Method of fire and control.** If the observer desires to control the time of firing, he will say **AT MY COMMAND**. The FDC will tell the observer when the unit is ready to fire. At the proper time the observer will say **FIRE**. To remove this control, the observer must say **CANCEL AT MY COMMAND**.

The FDC will **read back** each part of the call-for-fire right after the observer ends his transmission. This is done to make sure that the FDC has copied (**understood**) the transmission correctly. Instead of saying **OVER** at the end of each FDC's transmission, the FDC says **OUT**.

**Authentication** is a normal step in the initial call-for-fire. The FDC challenges, and the observer replies with the correct authentication. This procedure is to keep the enemy from penetrating fire control nets to cause friendly units to fire at each other.

The **message to observer** is sent by the FDC to the observer, after the initial call-for-fire, to tell him how the target will be engaged. The message will tell the observer what unit will be firing and give any changes to the call-for-fire such as a change to the method of engagement, or a change to the type ammunition in the fire-for-effect, or the amount.

#### Example:

ALPHA (battery firing), ICM IN FIRE FOR EFFECT, THREE ROUNDS (battery will fire three rounds per tube), OVER.

The observer called for VT for the fire-for-effect and the FDC decided to shoot ICM in the fire-for-effect:

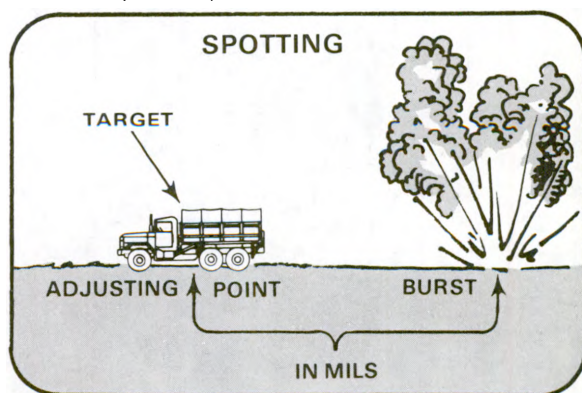
## ADJUSTING INDIRECT FIRE

Once the call-for-fire has been made, the observer's next concern is to get the fire on the target. If he can locate a target accurately, he will request fire-for-effect in his call-for-fire. When the observer cannot accurately locate the target for any reason (**deceptive terrain, lack of identifiable terrain features, poor visibility, or an inaccurate map**), he must conduct an adjustment to get the fire on target. Normally, one artillery piece or mortar is used in adjustment.

When adjusting, the observer must first pick an adjusting point. For a destruction mission (**precision fire**), the target is the adjusting point. For an area target (**area fire**), the observer must pick a well-defined adjusting point at the center or close to it. The observer must spot the first and each successive adjusting round and send range and deviation corrections, as required, back to the FDC until fire hits the target.

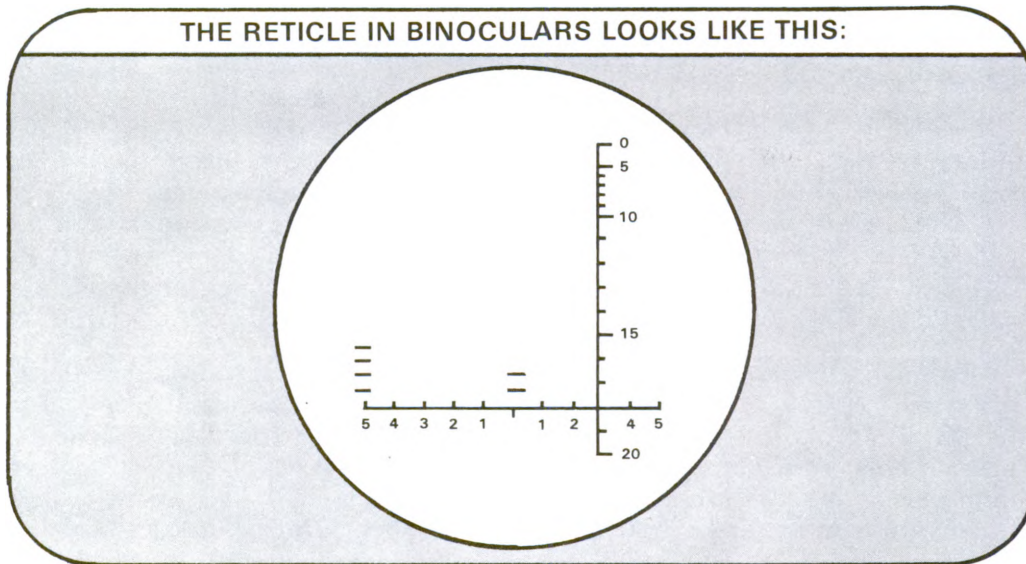
**Spotting** is the relating (by the observer) of the burst or group of bursts to the adjusting point.

As applied to **deviation (left or right)**, spotting involves measuring the horizontal angle (in mils) between the burst and the adjusting point. A burst to the right (left) of the target is spotted as, (so many) MILS RIGHT (LEFT).



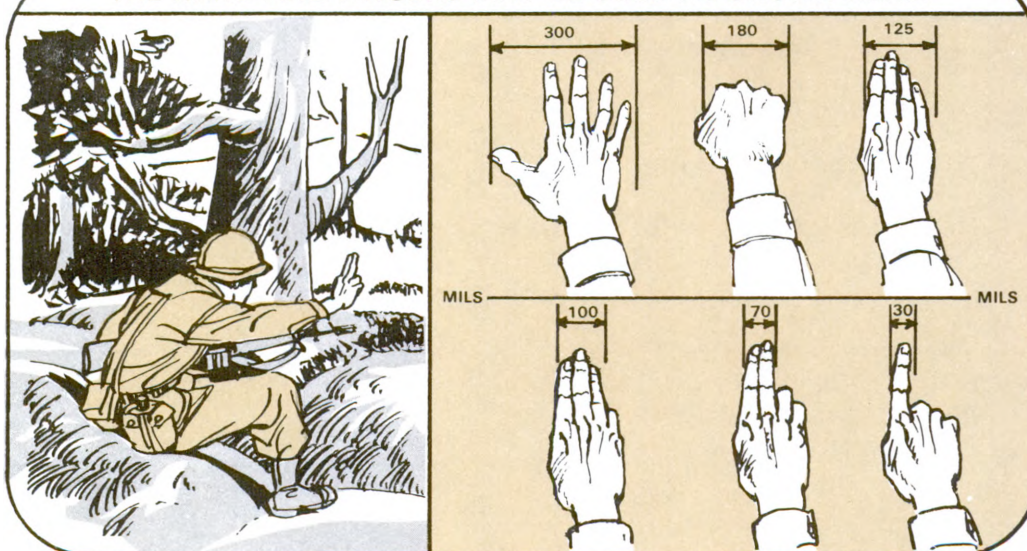
The determining of deviation requires an angle-measuring device. The mil scale on binoculars, and the fingers and hand are both standard means.

THE RETICLE IN BINOCULARS LOOKS LIKE THIS:



The horizontal scale, divided into 10-mil increments, is used for measuring horizontal angles. The vertical scales, in 5-mil increments, in the center and on the left of the reticle are used for measuring vertical angles. The scale on the right, if present, is no longer used.

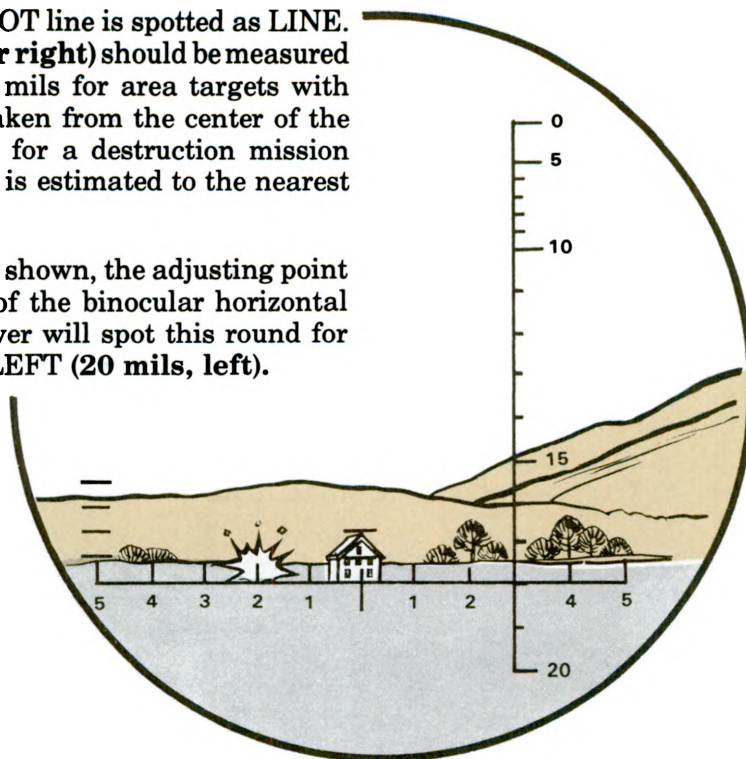
THE HAND AND FINGERS MAY BE USED AS SHOWN HERE:



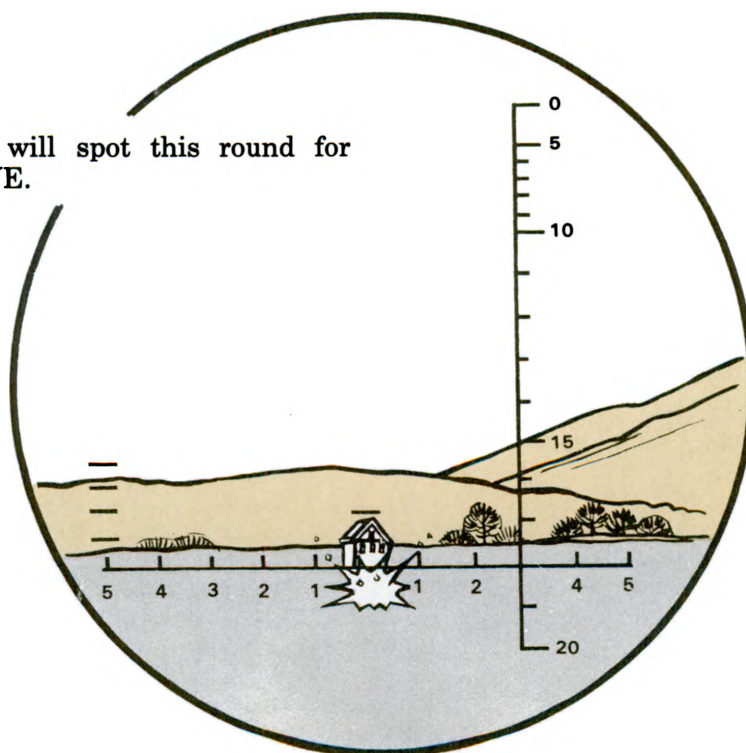


A burst on the OT line is spotted as LINE. Deviation (**left or right**) should be measured to the nearest 5 mils for area targets with measurements taken from the center of the burst. Deviation for a destruction mission (**precision fire**) is estimated to the nearest mil.

In the example shown, the adjusting point is at the center of the binocular horizontal scale. The observer will spot this round for deviation as 20 LEFT (20 mils, left).



The observer will spot this round for deviation as LINE.



Once the mil deviation has been determined, the observer must convert it into a deviation correction (in meters), which is later sent with the range correction to the FDC for the next adjusting round or when calling for fire-for-effect. Deviation correction (distance in meters the burst must be moved to be on line between observer and target) is determined by multiplying the observed deviation in mils (deviation spotting) by the distance from the observer to the target in thousands of meters (the OT factor). The result is expressed to the nearest 10 meters.

A minor deviation correction (10 to 20 meters) should be made in adjustment of precision fire. In adjustment of area fire, small deviation corrections (20 meters or less) should be ignored except when such a small change is necessary to determine a definite range spotting.

Throughout the adjustment, the observer should move the adjusting rounds close enough to the OT line so that range spotting can be made accurately.

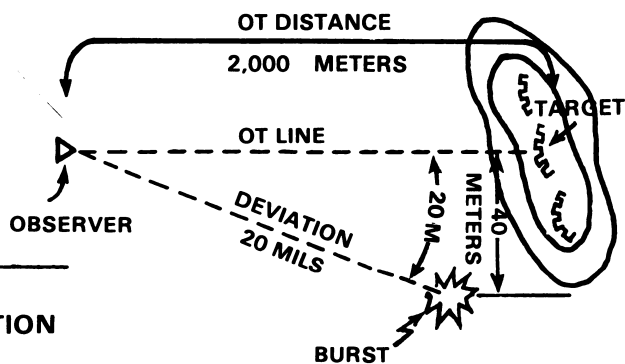
### CONVERT TO A DEVIATION CORRECTION IN (METERS)

#### EXAMPLE:

- OBSERVER DEVIATION 20 MILS
- OT DISTANCE 2,000 METERS
- OT FACTOR 2

---

OBSERVER DEVIATION X OT  
FACTOR = DEVIATION CORRECTION  
 $20 \times 2 = 40 \text{ METERS}$



#### GUIDE

#### FOR DETERMINING THE OT FACTOR

OT distance greater than 1,000 meters. Round to the nearest thousand, and express in thousands of meters.

#### Examples:

OT distance, 4,200 meters — OT factor, 4.0

OT distance, 2,700 meters — OT factor, 3.0

OT distance less than 1,000 meters. Round to nearest 100 meters, and express in thousands of meters.

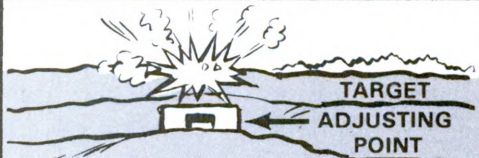
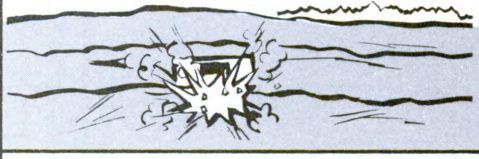





#### Example:

OT distance, 800 meters — OT factor, 0.8



Spotting, as applied to **range (short or over)**, is required to make adjustments in range to get fire on the target. Any range spotting other than **DOUBTFUL** or **LOST** is

definite. Usually, an adjusting round's burst that is on or near the OT line will give a definite range spotting.

SPOTTINGS FOR RANGE ARE:	
<b>OVER.</b> A burst that appears beyond the adjusting point.	
<b>SHORT.</b> A burst that appears between the observer and the adjusting point.	
<b>TARGET.</b> A burst that hits the target. This spotting is used only in precision fire ( <b>destruction missions</b> ).	
<b>RANGE CORRECT.</b> A burst that appears to be at the correct range.	
<b>DOUBTFUL.</b> A burst that can be observed but cannot be spotted as <b>OVER</b> , <b>SHORT</b> , <b>TARGET</b> , or <b>RANGE CORRECT</b> .	
<b>LOST.</b> A burst whose location cannot be determined.	
<b>LOST OVER OR LOST SHORT.</b> A burst that is not observed but that is definitely known to be beyond or short of the adjusting point.	

A definite range spotting can be made by the observer, even though the burst is not on or near the OT line, by his knowledge of the terrain or wind, or by observing debris scattered by the explosion. If, however, the

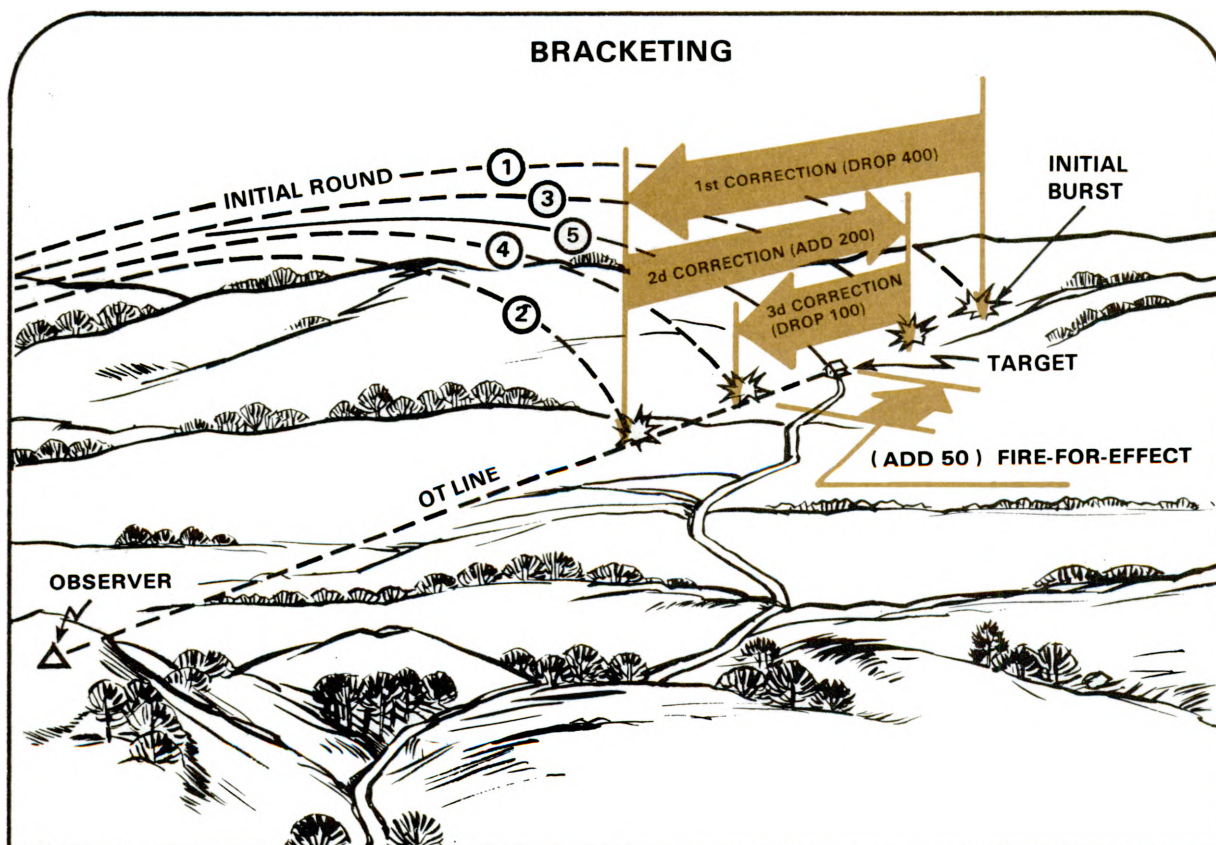
observer is not sure (**DOUBTFUL**), then his correction sent to the FDC should only be for deviation (**LEFT** or **RIGHT**). This is done to bring the burst on line to get a definite range spotting (**OVER**, **SHORT**, or **TARGET**).

The observer gives range corrections so that, with each successive correction, the adjusting round intentionally lands over or short of the adjusting point, closing on the target. Fire-for-effect is called for when a range correction would bring the next round within 50 meters of the adjusting point. This technique is called **bracketing**.

Bracketing is a safe technique in that it is sure to bring fire on the target. Time is

important, especially when targets may be moving or may move to seek cover when they find fire coming their way. Accurate initial locating data speeds adjustment and makes the requested fire more effective.

To shorten adjustment time, the observer should try to bracket the target quickly (**first two or three adjusting rounds**), then try to adjust on the target with few subsequent rounds.



When bracketing, the observer should use the following guide to determine the first range correction:

If OT range is —	Add or drop a minimum of —
1,000-2,000 meters	200 meters
Over 2,000 meters	400 meters

The observer should call for fire-for-effect when a 100-meter bracket has been split.

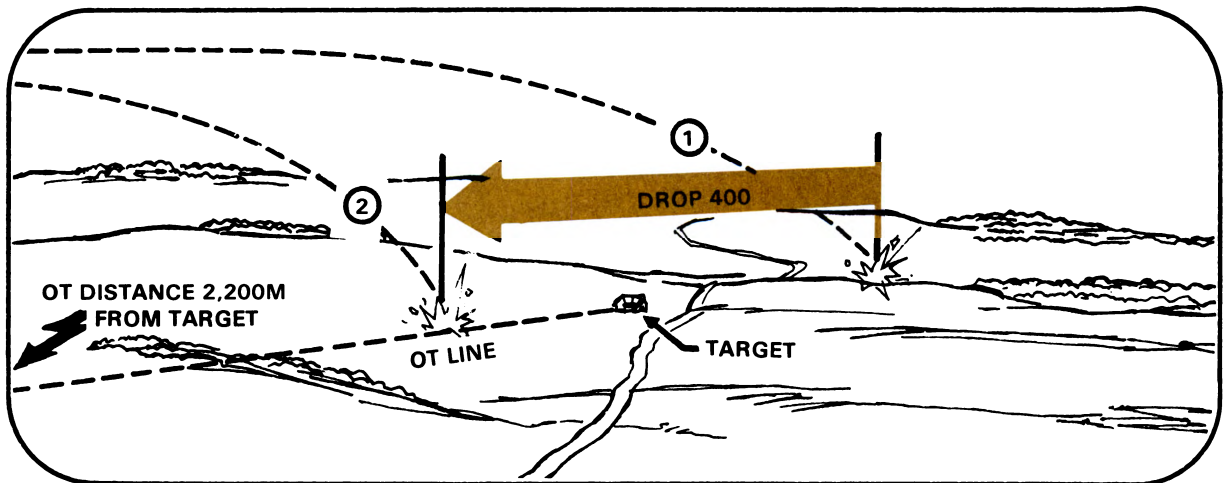
Example:

**DROP 50, FIRE-FOR-EFFECT.**



## ADJUSTMENT EXAMPLE

The observer has already sent a **DROP 400** after observing his first round (#1). The next round (#2) hit short of the adjusting point (target).

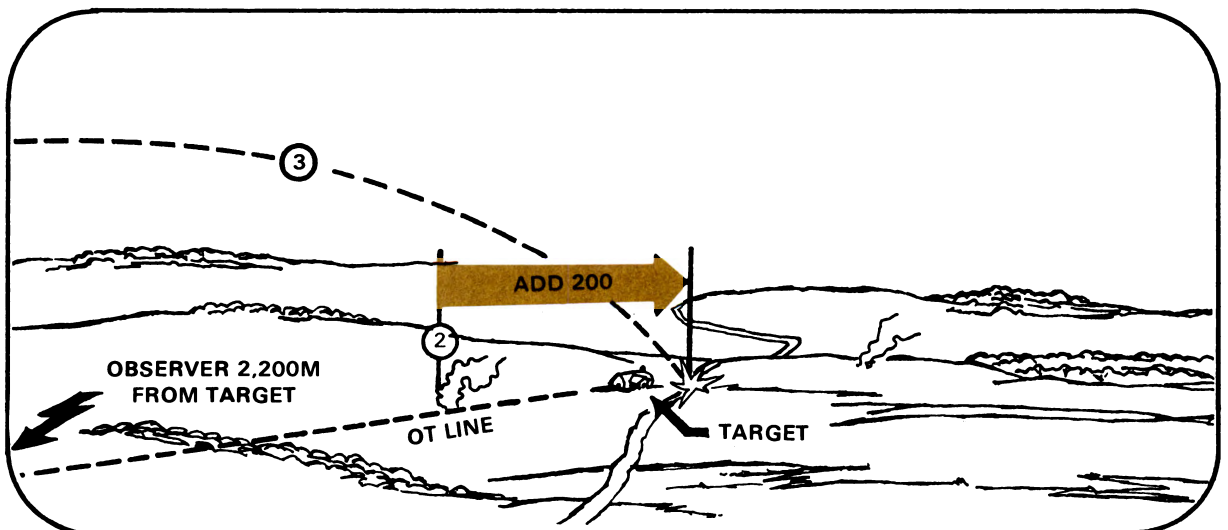


The observer has just established a range bracket in that he now has a round over and one short of the adjusting point — separated by 400 meters.

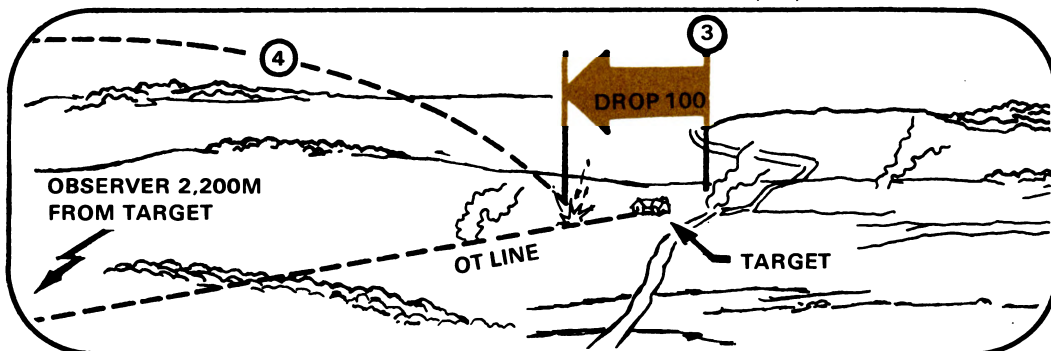
Using the bracketing technique, the observer now splits the bracket and sends **ADD 200** to the FDC.

The third round (#3) burst beyond the adjusting point. The observer now has a 200-meter bracket because round #2 was short of

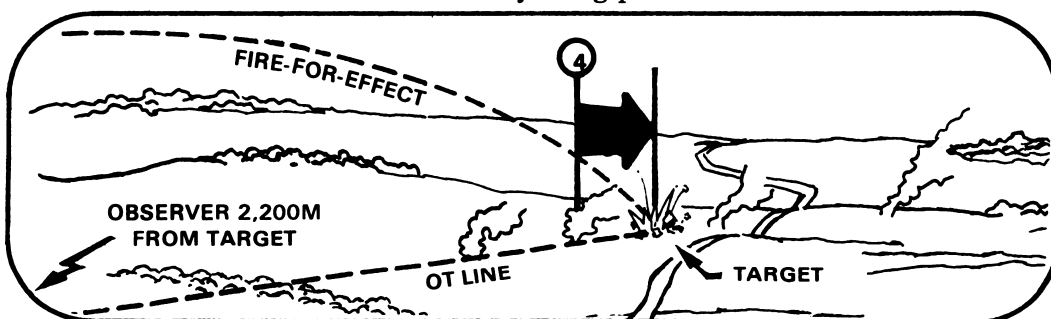
the adjusting point. The distance between rounds #2 and #3 is 200 meters. Splitting his bracket, the observer sends **DROP 100**.



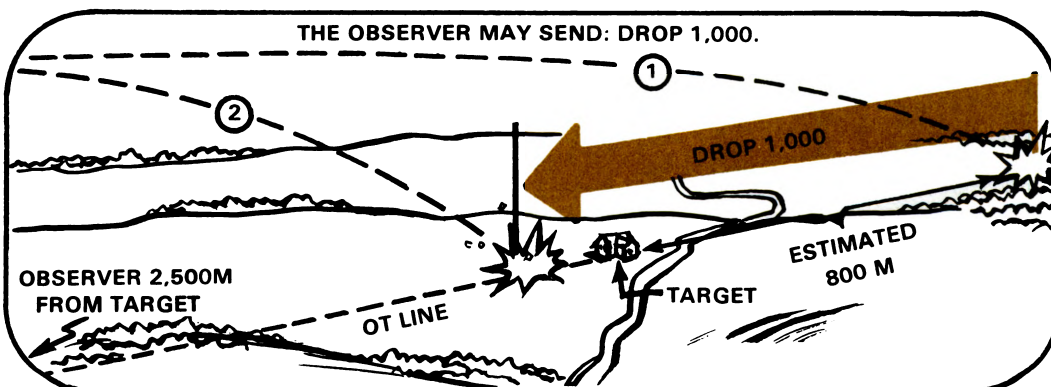
The fourth round (#4) hit short.



The observer now has a 100-meter bracket. He now sends, **ADD 50, FIRE-FOR-EFFECT** to the FDC. The fire-for-effect rounds will be within 50 meters of the adjusting point.



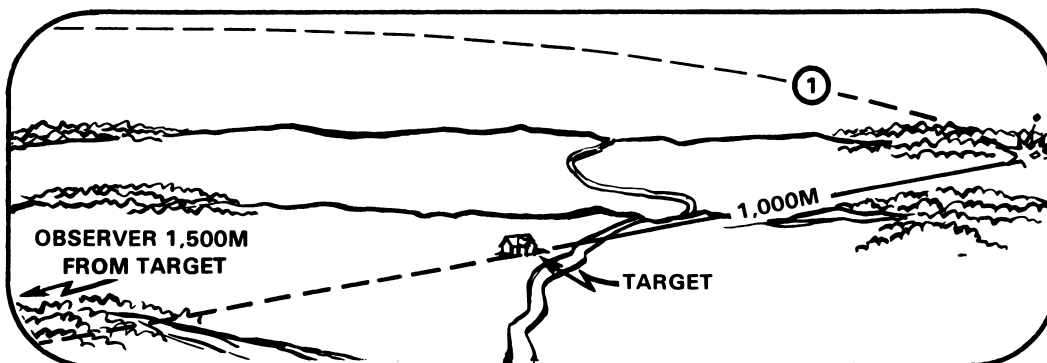
There may be times when the first round (#1) hits a long way from the target (**over**). In that case, the observer must send a bold adjustment to get the next round (#2) on line, and near and short of the target to establish a bracket. If the first round (#1) is between the observer and the target, he wants the second round (#2) near and over the target.



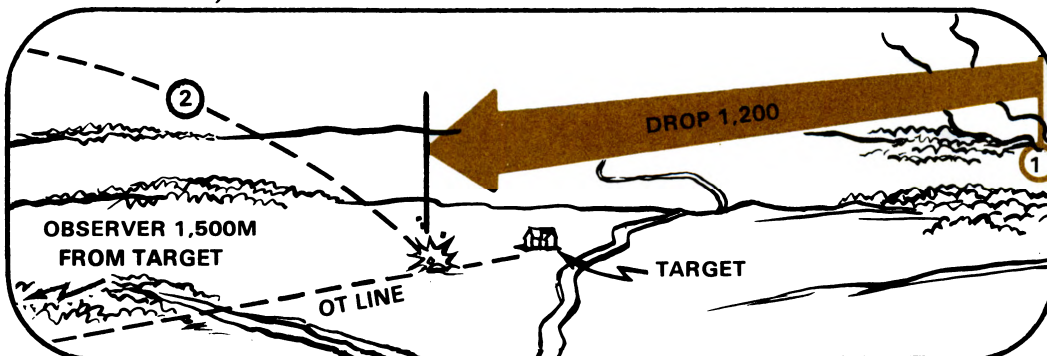


## ADJUSTMENT (MODIFIED) EXAMPLE

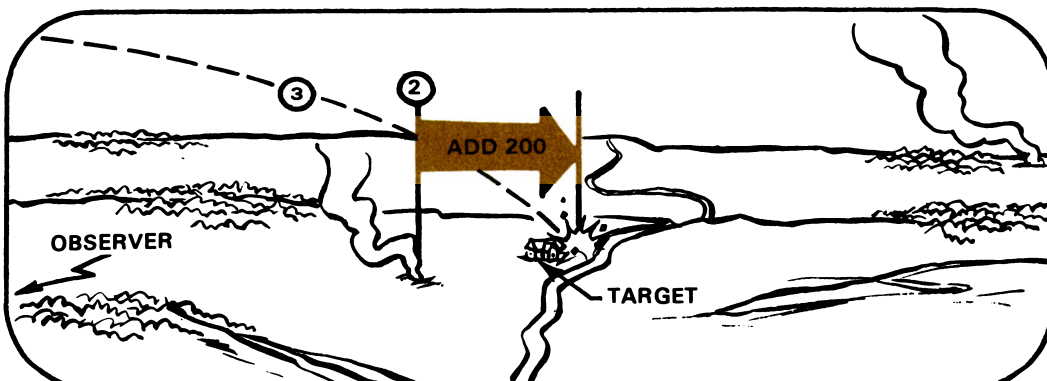
The observer has spotted round #1 to be about 1,000 meters over. The distance to the target is 1,500 meters.



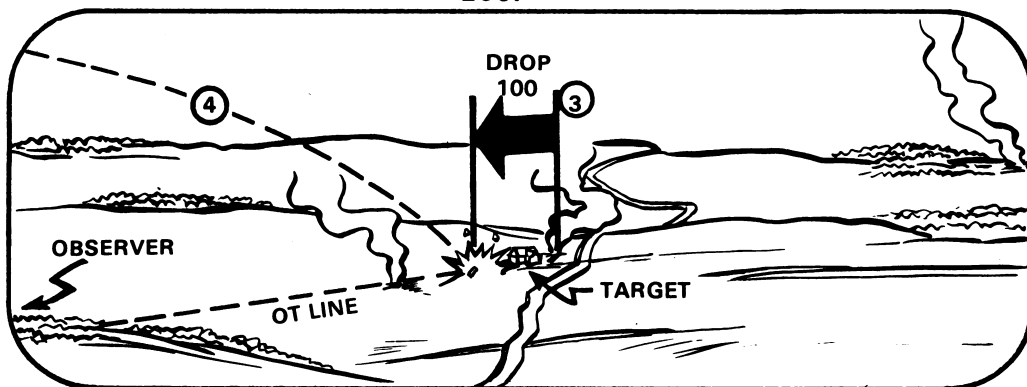
The observer knows that he has to establish a bracket. He must get the next round (#2) near and short of the target. He sends **DROP 1,200** to the FDC.



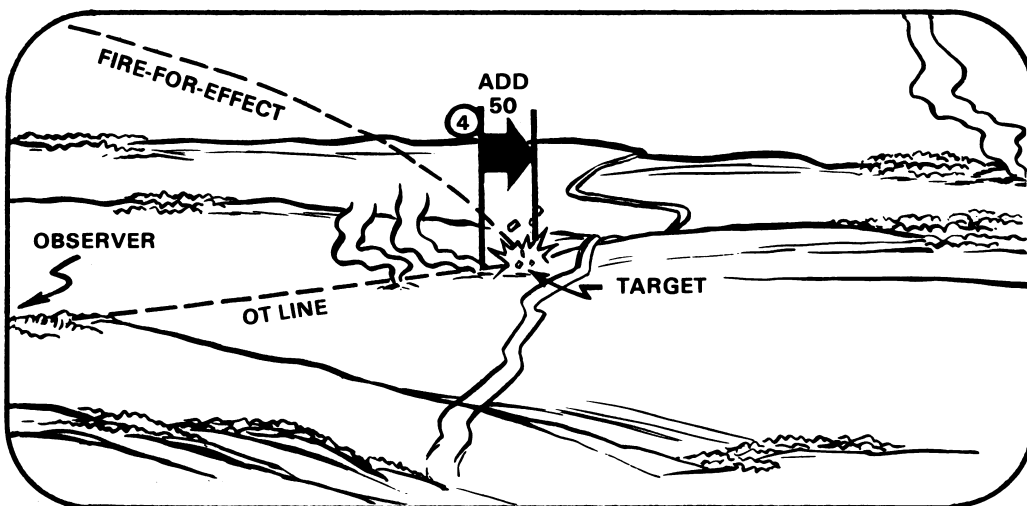
Round #2 hits near and short of the target. Because round #2 is spotted as **SHORT**, the observer sends **ADD 200**.



The third round (#3) hits over. The observer has established a 200-meter bracket with rounds #2 and #3. He now sends **DROP 100**.



The fourth round (#4) hits short. The observer has established a 100-meter bracket, so he sends **ADD 50, FIRE-FOR-EFFECT**. The fire-for-effect rounds will be within 50 meters of the target.



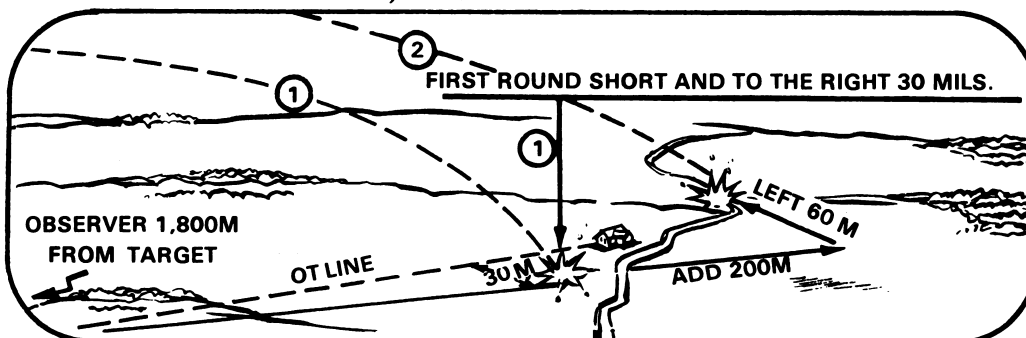
**Correction of Deviation and Adjustment of Range.** The following example shows what an observer should do in an adjustment that requires dealing with deviation and range:

The first round (#1) hits. The observer

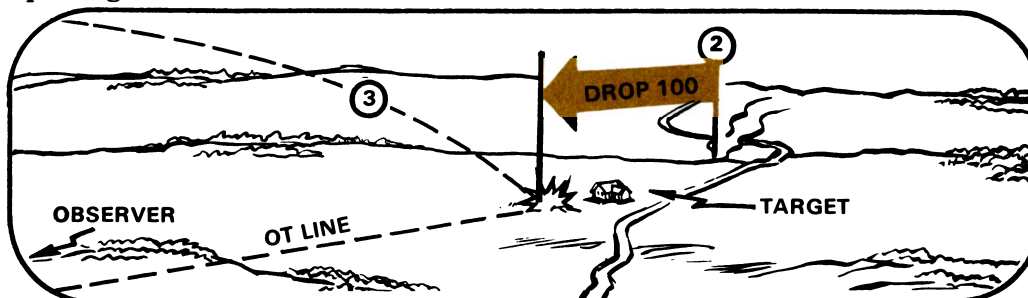
spots it as **SHORT** and 30 mils **RIGHT**, with an OT distance of 1,800. The observer will multiply the OT factor (2.0) by the deviation spotting (30 mils), (i.e.,  $2 \times 30 = 60$ ). He now needs to give a range correction sufficient to establish a bracket. Let us say he decides that 200 meters will be enough. His correction sent



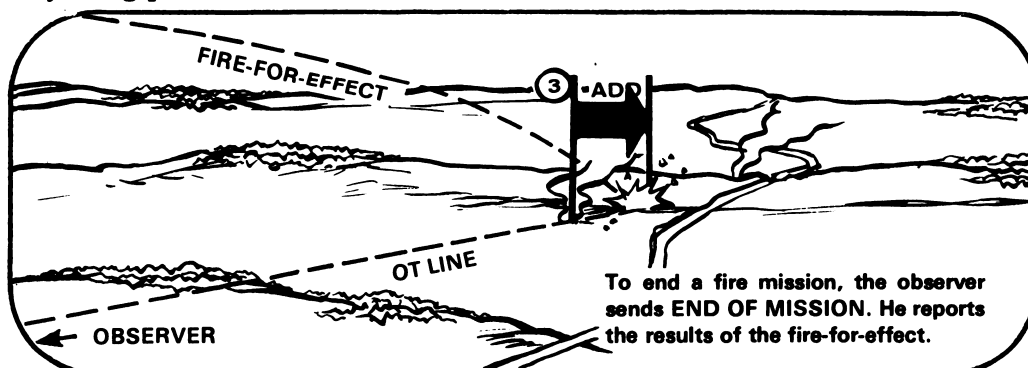
to the FDC will be **LEFT 60, ADD 200**.



The second round (#2) hits **OVER** and 5 mils **LEFT**. The observer now sends **DROP 100**. He sends that correction because the OT factor (2.0) times the deviation spotting (5 mils **LEFT**) equals 10 meters. This is a minor deviation correction and need not be sent to the FDC. The observer sends **DROP 100**, because he is splitting the bracket.



The third round (#3) hits short and on-line. The observer has just established a 100-meter bracket. He now sends **ADD 50, FIRE-FOR-EFFECT**. The fire-for-effect rounds will be within 50 meters of the adjusting point.



## ADJUSTING ILLUMINATION

When illuminating rounds are adjusted, range and lateral changes are made using the procedure previously discussed. The adjustment is continued until illumination is within 200 meters of the desired spot. Adjustments are also made according to height of burst. The height of burst is correct when the illuminating flare burns out as it hits the ground. If a flare burns out before hitting the ground, the observer must

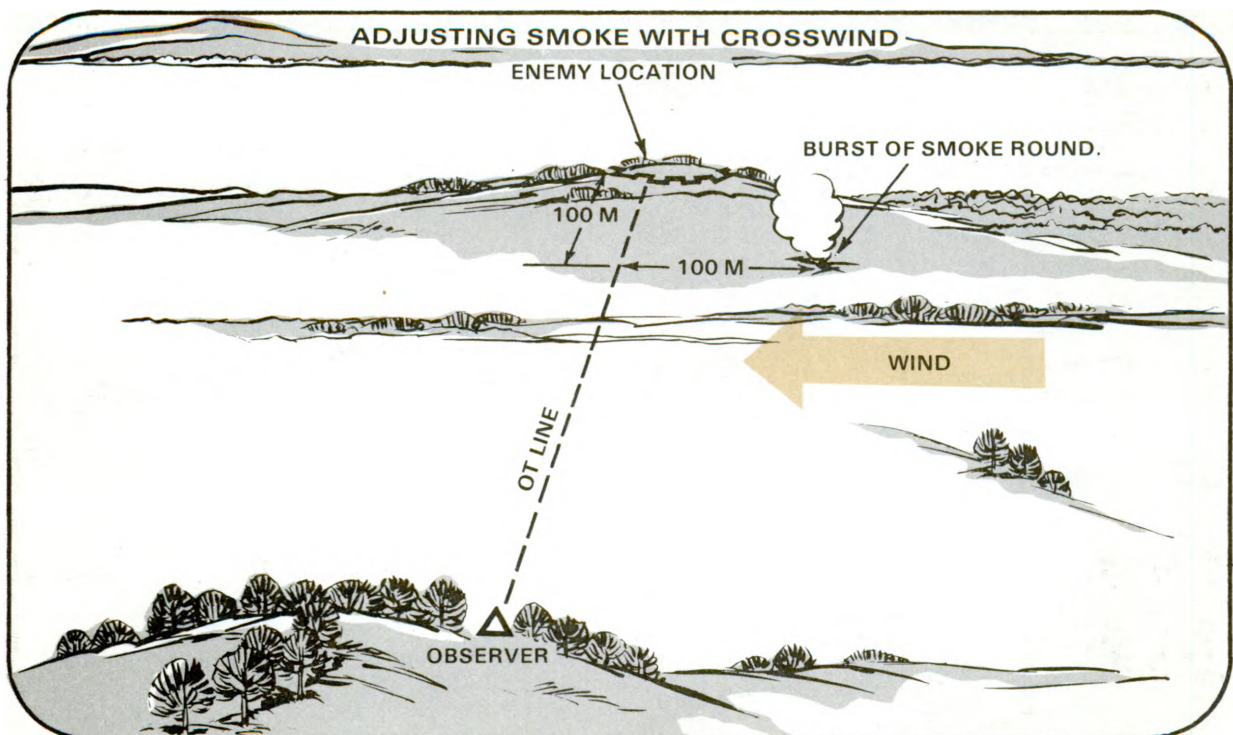
determine the approximate height above the ground at which the flare burned out. He sends that height (to the nearest 50 meters) to the FDC in the adjustment. If a flare burns out after hitting the ground, the observer must determine how long (in seconds) the flare burned on the ground. The observer sends this time to the FDC in the correction. The FDC will help with the adjustment.

## ADJUSTING SMOKE

When smoke rounds are adjusted, the previously discussed adjustment procedure is used. However, the goal is not to get the rounds to burst on the enemy position. The goal is to place the smoke from the round close to the enemy position and between it

and what is to be obscured from the enemy's view.

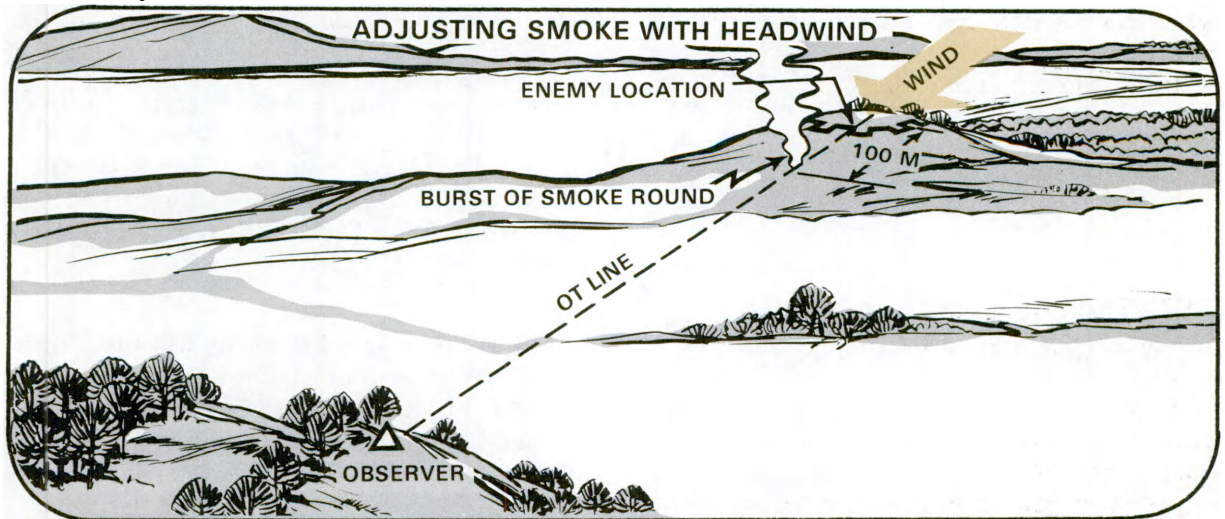
The point where smoke rounds are placed depends on wind conditions. If there is a crosswind (blowing across the OT line), the burst should be about 100 meters short of the enemy location and 100 meters upwind.



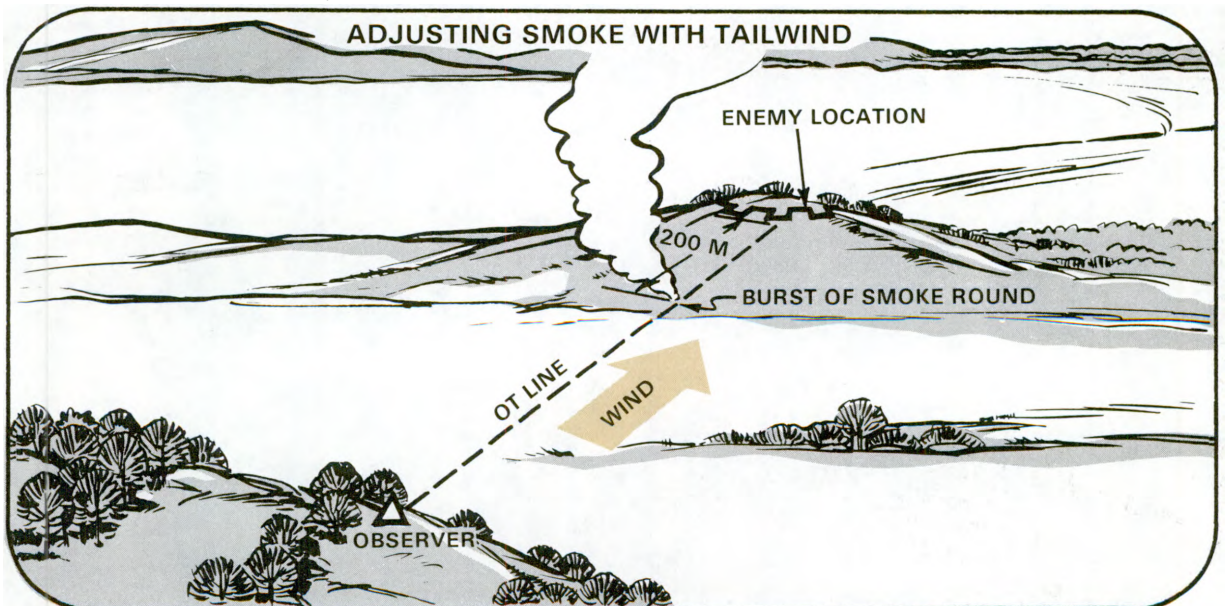


If the wind is a headwind (blowing away from the enemy and toward the observer), the burst should be 100 meters short and on the OT line.

Care must be used with headwinds. The smoke may be blown onto the observer.



If the wind is a tailwind (blowing toward the enemy), the burst should be at least 200 meters short of the enemy and on the OT line.



## DIRECTING TANK AND TOW FIRE

When working with tanks or TOWs, rifle platoon and squad leaders must be able to help direct their fire to the target quickly.

**How to Communicate.** Leaders can direct tank or TOW fire by radio, phone, or face-to-face. Tanks have external phones and terminals for wire connection.

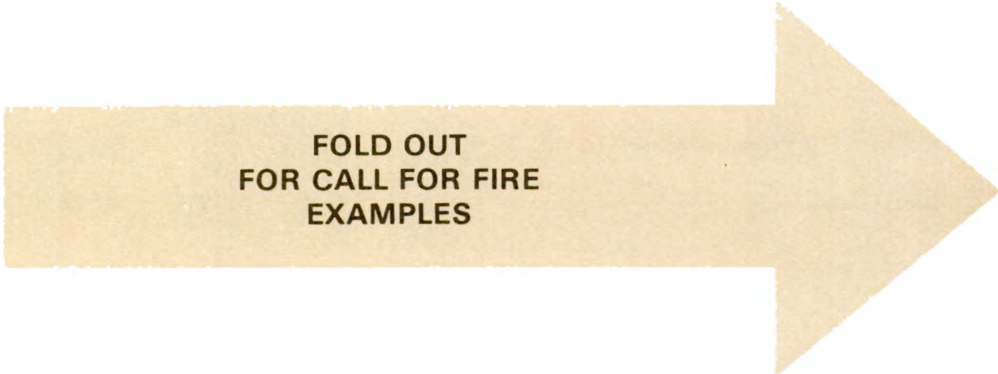
**Using TRPs.** Leaders plan TRPs (plotted on range cards) and tell the tank commander or TOW crew their numbers and where they are. TRPs should be easily identifiable features. TRPs should be selected by looking at the ground, not from a map alone. By referring to a TRP, leaders can direct tank or TOW fire right or left, up or down. If there is doubt about right or left, leaders can use compass directions.

**Using the Tank Gun Barrel or TOW Launcher.** If TRPs are not used, either because they have not been planned or cannot be seen, a leader can use the gun barrel or launch tube (if he can see it) as a baseline from which a direction can be given; for example, **FROM THE TUBE, HALF LEFT, 1,300 METERS.**

**Using Tracer Fire.** A leader can tell the tank or TOW crew which area he will shoot into and have it watch his tracers to the target. He should describe the general direction to the target relative to where the tank or TOW is located; for example, **FRONT, WATCH MY TRACERS.**

**Giving the Direction, Description of Target, and Range.** As he is trying to direct the eyes of a tank or TOW crew to a target, the leader should narrow the area which the crew must search and describe the target; for example, **NORTHEAST OF BRIDGE, BMP, 600 METERS.**

**Correcting the Direction if the Tank or TOW Crew Fails to Identify the Target.** If a tank or TOW crew fails to identify the target or shoots at the wrong one, the leader should give correction based on the burst of the first round (for example, **FROM THAT ROUND, RIGHT 200, UP 100**), or give another description (for example, **BMP, FROM THE HOUSE, 600 METERS EAST**).



FOLD OUT  
FOR CALL FOR FIRE  
EXAMPLES



## APPENDIX F

# OBSTACLES

### STANDARD MINES

Minefields assist in security, defensive, retrograde, and offensive operations by reducing the mobility of the enemy. Minefields supplement obstacles and weapons. They also add to the user's combat power without additional troops.





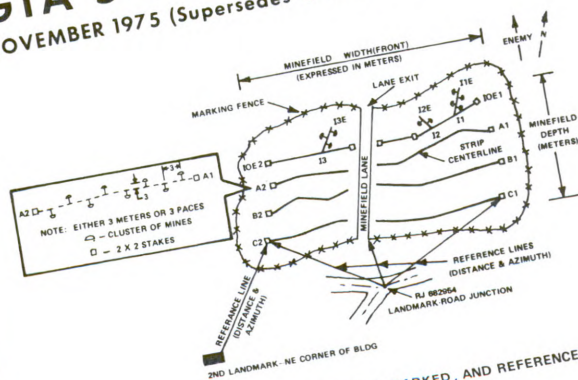
For information on standard mines used by infantry units see GTA 5-10-27 Mine Card.

**GTA 5-10-27 MINE CARD**  
NOVEMBER 1975 (Supersedes GTA 5-10-10, June, 1970)

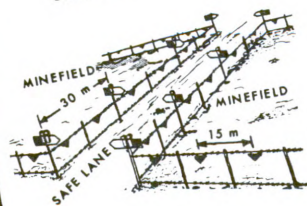
MINEFIELD WIDTH(FRONT)  
IN METERS

ENEMY

**GTA 5-10-27 MINE CA**  
NOVEMBER 1975 (Supersedes GTA 5-10-10, June, 1970)



STANDARD PATTERN MINEFIELD FENCED, MARKED, AND REFERENCED



MARKING OF MINED TERRAIN  
FOR AREAS CONTAINING MINES

WARNING SIGNS FOR AREAS CONTAINING  
EXPLOSIVE MINES CHEMICAL MINES



RED BACKGROUND  
WHITE LETTERS

YELLOW STRIPS

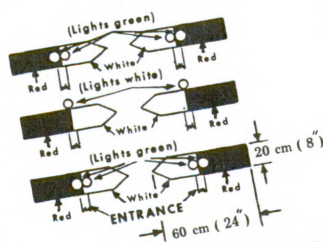
BACKSIDE OF SIGNS RED WITH NO OTHER MARKINGS

15 m



(THE FRONT SIDE OF THE SIGN IS TO BE POSTED  
FACING AWAY FROM THE AREA BEING MARKED.)

WIRE FENCING FOR MINEFIELD CONTAINING CHEMICAL MINES  
(HIGH EXPLOSIVE MINES IMPLIED)



cm ( 24" ) 

STANDARD REAR AREA LANE MARKING



## HASTY PROTECTIVE MINEFIELD

In the defense, platoons and squads lay hasty protective minefields to supplement weapons, prevent surprise, and give early warning of enemy advance. A platoon can install hasty protective minefields, but only with permission from the company commander. **(The company commander must get permission from the battalion commander.)**

The leader sites the hasty minefield across likely avenues of approach within range of small arms fire and observation from defensive positions.

The minefield should be recorded (on DA Form 1355-1-R) before the mines are armed. The leader installing the minefield should warn adjacent platoons and tell the company commander of the minefield's location. When the platoon leaves the area **(except when forced to withdraw by the enemy)**, it must either remove the minefield or transfer the responsibility for the minefield to the relieving platoon leader.

Only metallic mines are used in hasty protective minefields. If the mines cannot be found when the field is removed by hand, a metallic mine detector (AN/PSS-11) will help find the lost mines. The mine detectors are in the battalion's supply section.

Boobytraps are not used in a hasty protective minefield as they may delay and endanger friendly troops when removing the minefield.

The employing unit must make sure that the minefield is covered by observation and fire at all times. Continuous observation can keep the enemy from boobytrapping or removing the mines.

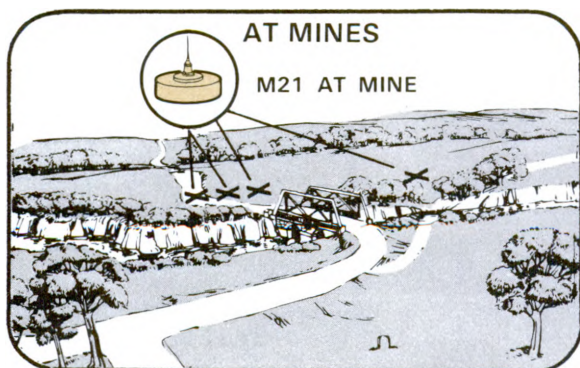


The following example describes how to lay a hasty protective minefield. Although this is an example of a platoon, a squad follows the same procedure.

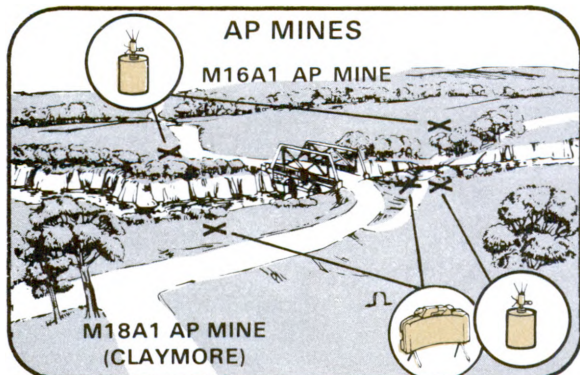
A platoon has moved into a battle position and is preparing to defend. Hasty protective minefields are needed to improve the defense. The platoon's basic load contains M21 AT mines, and M16A1 and M18A1 (Claymore) AP mines with tripwires.

After requesting and receiving permission to lay the minefield, the platoon leader and squad leaders reconnoiter to determine exactly where the mines should go.

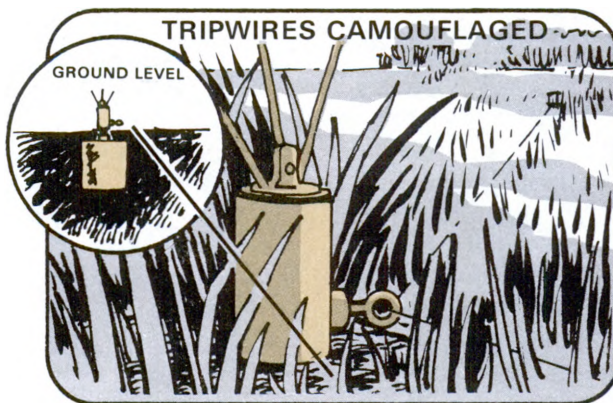
Leaders reconnoiter and find a need to block enemy vehicles at two points — the bridge and the ford, using AT mines.



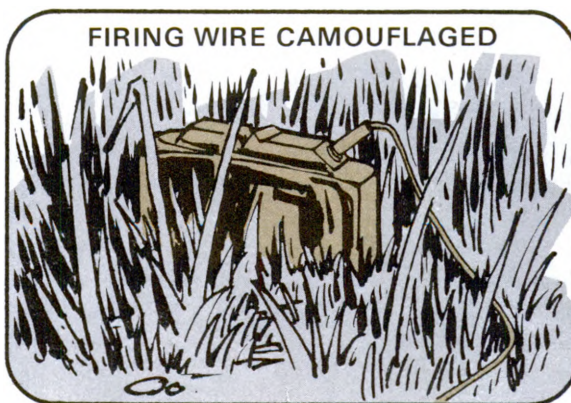
The leaders decide that AP mines are needed to protect the AT mines and to cover the likely avenues of approach for enemy infantry. AP mines are also needed for the open area in front of the platoon.



The M16A1 AP mines will be buried and the tripwires camouflaged with grass or leaves.



The Claymores' firing wires will be camouflaged using grass or leaves, and buried when possible.



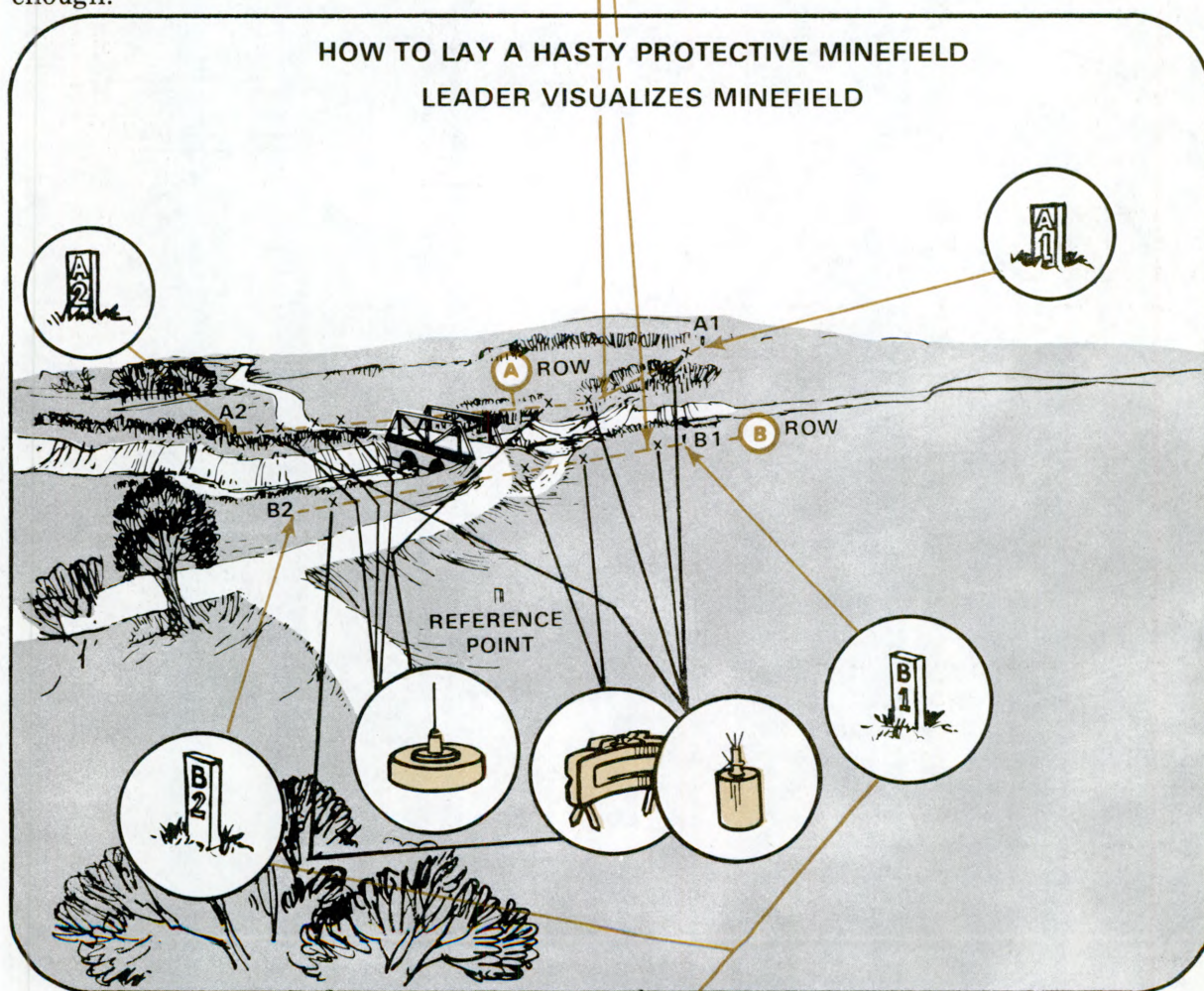
When the leaders have decided exactly where they will lay the mines, and are ready to begin, the platoon leader reports this information to the company commander. This is called an **initiation report**.

Next, squad leaders have their men emplace the mines. **THE TROOPS DO NOT ARM OR ATTACH TRIPWIRES TO THE MINES AT THIS TIME.**

While the troops are placing the mines, the platoon leader finds an easily identifiable reference point in front of the platoon's position. The concrete post to the front is an ideal reference point. The platoon leader now starts to record the minefield.



At the reference point, the platoon leader tries to visualize the minefield, running in rows, parallel to the defensive position. This will make the recording simpler and will later make retrieval quicker and safer. The row of mines closest to the enemy is designated A and the succeeding rows will be B, C. For this hasty protective minefield, the platoon leader decides that two rows (A and B) will be enough.



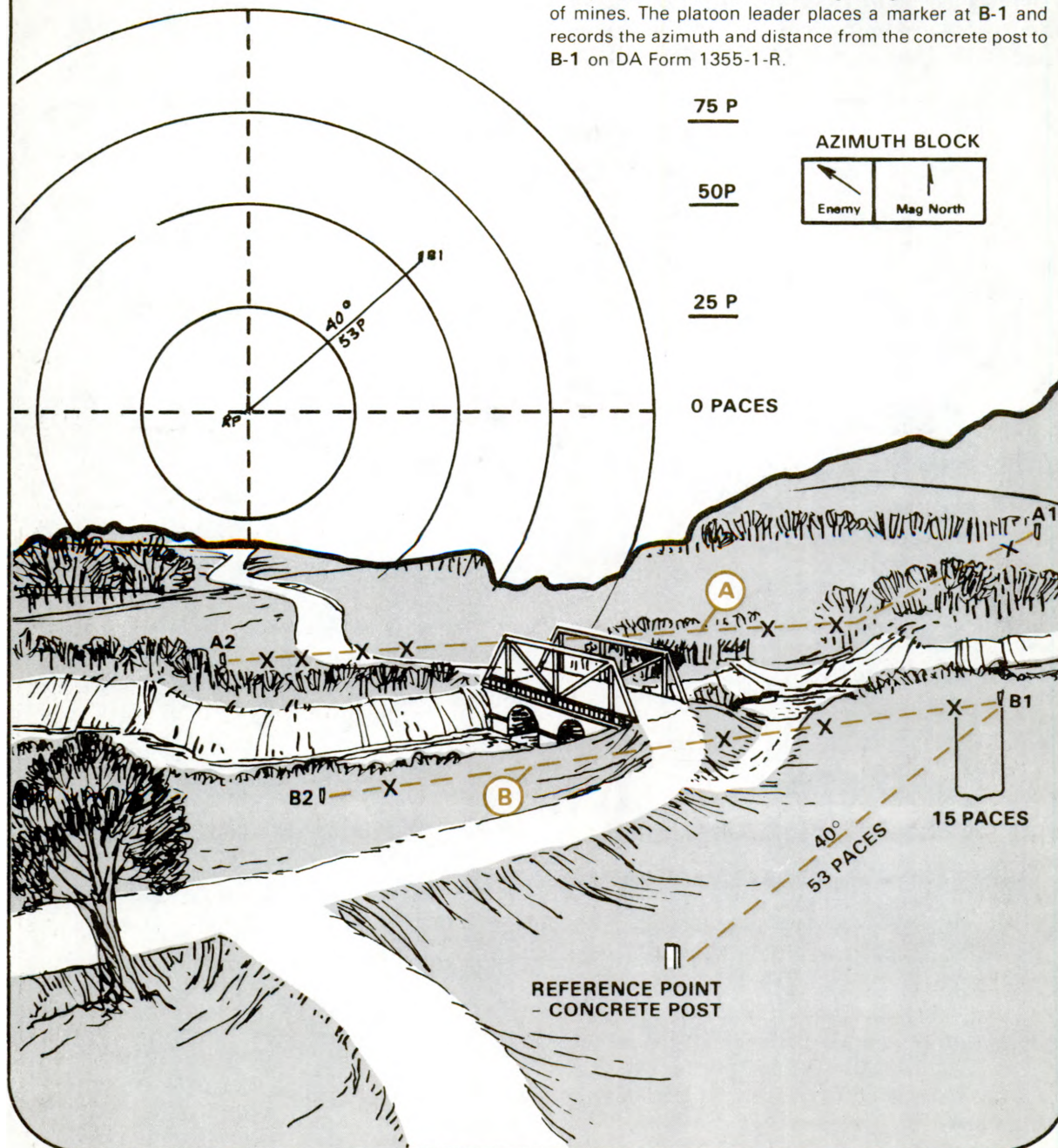
The ends of a row are shown by two markers. They are labeled with the letter of the row and the number 1 for the right end of the row and 2 for the left end of the row. The rows are numbered from right to left, facing the enemy. The marker can be a wooden stake, or steel picket.



## HOW TO LAY A HASTY PROTECTIVE MINEFIELD CONTINUED

DA FORM 1355-1-R  
HASTY PROTECTIVE MINEFIELD RECORD  
(FM 20-32)

From the concrete post, the platoon leader measures the magnetic azimuth in degrees and paces the distance to a point arbitrarily selected between 15 and 25 paces to the right of the first mine on the friendly side of the minefield. This point is **B-1** and marks the beginning of the second row of mines. The platoon leader places a marker at **B-1** and records the azimuth and distance from the concrete post to **B-1** on DA Form 1355-1-R.





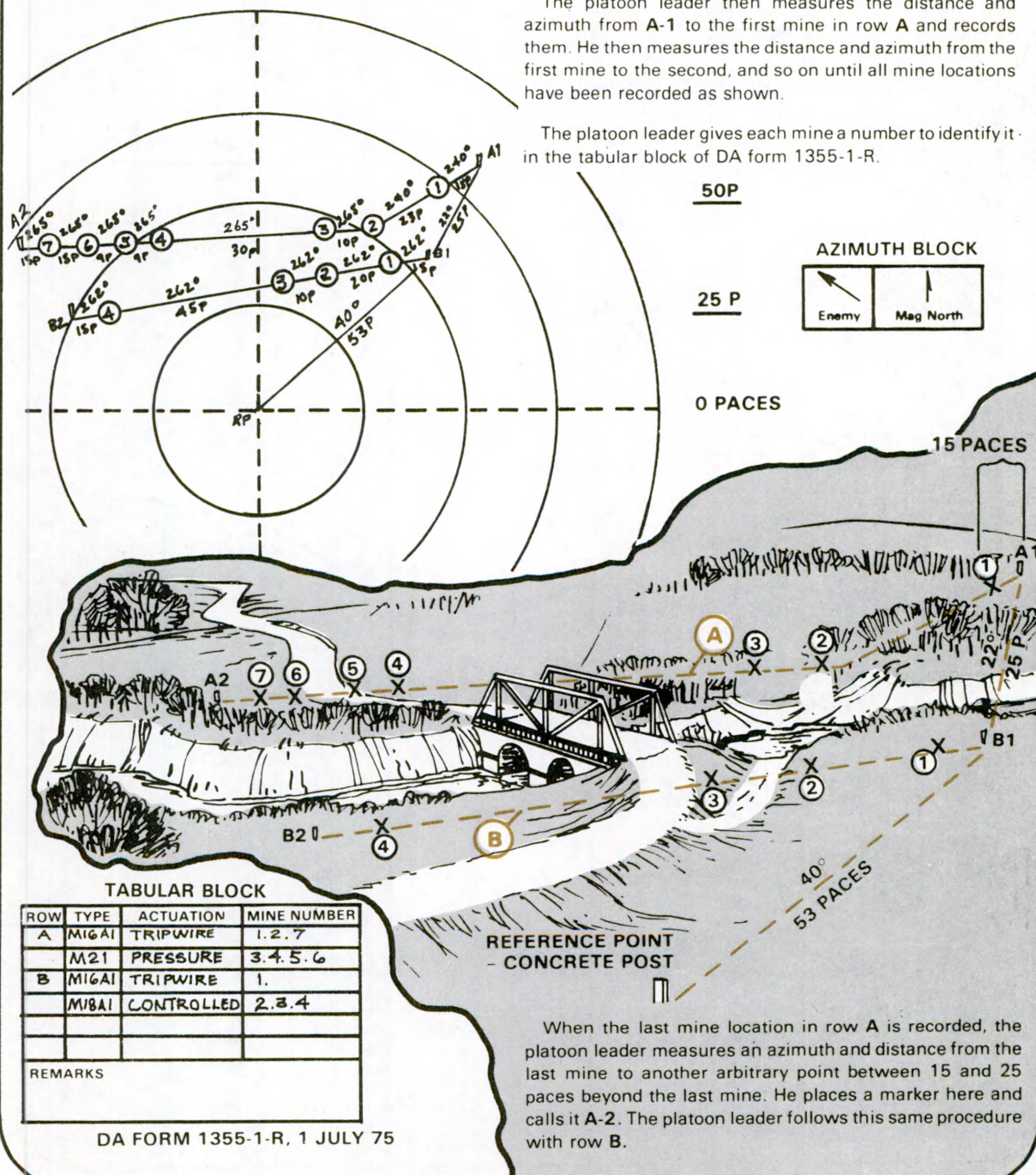
## HOW TO LAY A HASTY PROTECTIVE MINEFIELD CONTINUED

DA FORM 1355-1-R  
HASTY PROTECTIVE MINEFIELD RECORD  
(FM 20-32 )

Next, from **B-1** the platoon leader measures the azimuth and distance to a point 15 to 25 paces from the first mine in row **A**. He places a marker at this point and records it as **A-1**.

The platoon leader then measures the distance and azimuth from **A-1** to the first mine in row **A** and records them. He then measures the distance and azimuth from the first mine to the second, and so on until all mine locations have been recorded as shown.

The platoon leader gives each mine a number to identify it in the tabular block of DA form 1355-1-R.



When the last mine location in row **A** is recorded, the platoon leader measures an azimuth and distance from the last mine to another arbitrary point between 15 and 25 paces beyond the last mine. He places a marker here and calls it **A-2**. The platoon leader follows this same procedure with row **B**.

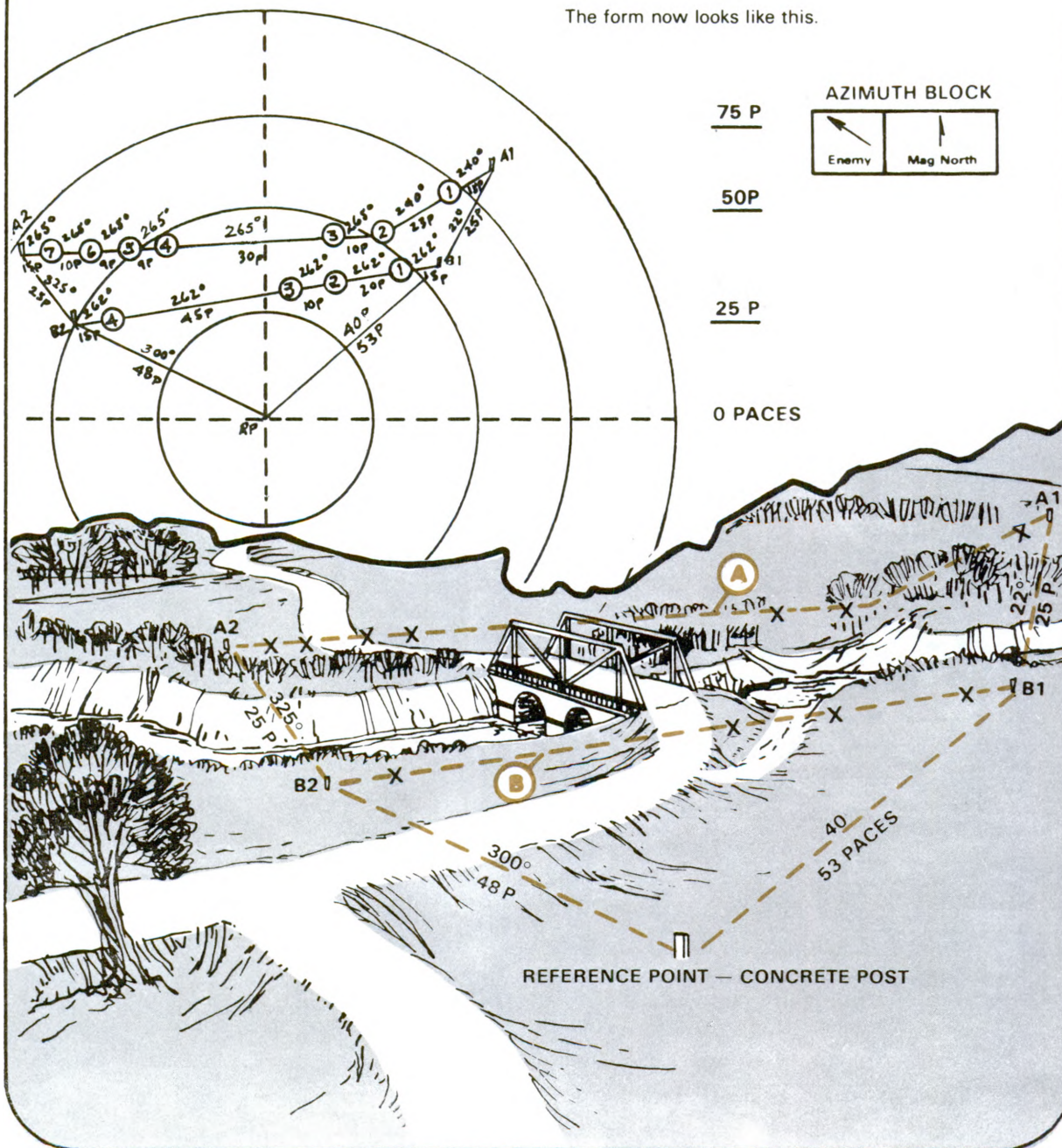


## HOW TO LAY A HASTY PROTECTIVE MINEFIELD CONTINUED

DA FORM 1355-1-R  
HASTY PROTECTIVE MINEFIELD RECORD  
(FM 20-32 )

When the platoon leader finishes recording and marking the rows, he measures the distance and azimuth from the reference point to **B-2**, and from **B-2** to **A-2**, and records them.

The form now looks like this.

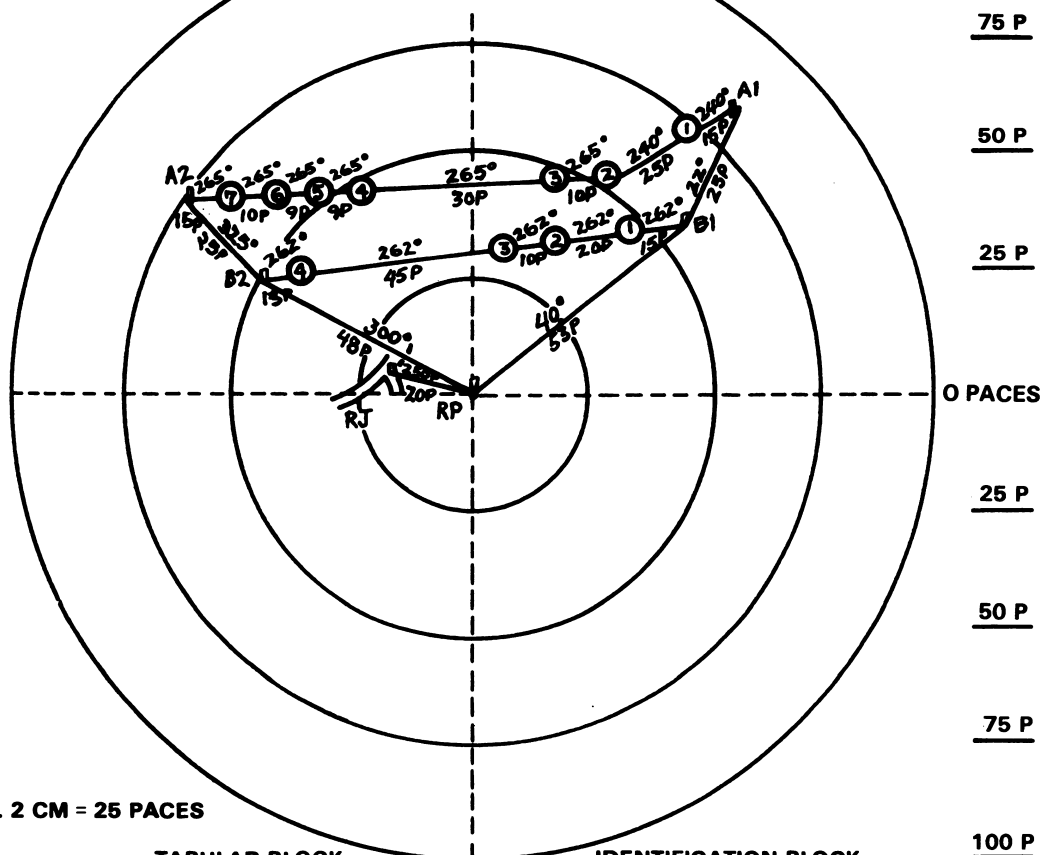
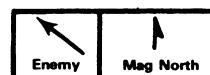




## HOW TO LAY A HASTY PROTECTIVE MINEFIELD CONTINUED

## COMPLETED DA FORM 1355-1-R

The platoon leader now ties in the reference point with a permanent landmark that he found on the map. He measures the distance and azimuth from this landmark to the reference point. The landmark might be used to help other locate the minefield should it be abandoned. Finally, he completes the tabular and identification blocks. The completed form looks like this.



SCALE. 2 CM = 25 PACES

## TABULAR BLOCK

ROW	TYPE	ACTUATION	MINE NUMBER
A	MIGAI	TRIP WIRE	1.2.7.
	MZI	PRESSURE	3.4.5.6.
B	MIGAI	TRIP WIRE	1
	MIGAI	CONTROLLED	2.3.4.
REMARKS LAND MARK IS ROAD JUNCTION AT NA 12343409			

## IDENTIFICATION BLOCK

UNIT 2ND PLT, A CO 1-4TH 1ST INF DIV	
REF PT CONCRETE POST BY ROAD	
REMARKS POINTS A1 + A2, B1 + B2 ARE MARKED WITH 2"X2" STAKES	
MAP & SHEET NO TALBOT 5568	
NAME OF IC LT. ALLAN	
Signature <i>LT. Allan</i>	Hour & Date 1700 6 JAN 79
MINES REMOVED	
MINES TRANSFERRED	

DA FORM 1355-1-R, 1 JULY 75, REPLACES DA FORM 1335-7, 1 MAR 68, WHICH IS OBSOLETE.

While the platoon leader is tying in the landmark, the troops arm the mines. The troops arm the mines nearest the enemy first (row A). This lets the troops work their way back to the platoon position safely.

Now that the field is laid and recorded, the platoon leader reports the completion of the minefield to the company commander.

As long as the unit and the minefield stay in place, the form (DA Form 1355-1-R) stays with the platoon leader. If the minefield is transferred to another platoon, the gaining platoon leader signs and dates the "mines transferred" block and accepts the form from the previous platoon leader. When the minefield is removed, the form is destroyed. If the minefield is left unattended or abandoned unexpectedly, this form must be forwarded to the company commander. The company commander forwards it to battalion to be transferred to more permanent records. In summary, here are the steps for installing a hasty protective minefield.

- **Report intention to lay a hasty protective minefield and get authorization to lay it.**
- **Reconnoiter to find the best places for mines based on likely enemy avenues of approach and the platoon's ability to keep the mines under observation.**
- **Report initiation of the minefield.**

- **Have the mines placed on the avenues of approach. Do not arm the mines yet. Use only metallic mines. Do not use boobytrap devices.**
- **Record the minefield on DA Form 1355-1-R.**
- **Arm the mines, working from the enemy side to the friendly side.**
- **Report completion of the minefield.**
- **Always integrate these mines with other defense plans.**

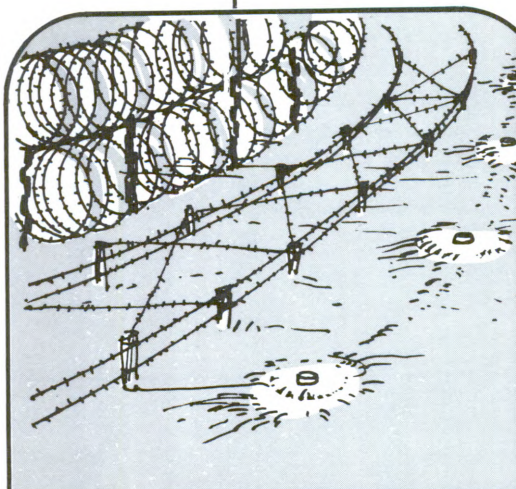
When retrieving the mines, the troops start at the reference point and move to B-1, using the azimuth and distances as recorded. They then move from B-1 to the first mine in row B. However, if B-1 is destroyed, they move from the reference point to B-2, using that azimuth and distance. They will now have to shoot the back azimuth from B-2 to the last mine, i.e., add or subtract 180 degrees from the recorded azimuth. The stakes at A-1, B-1, A-2, and B-2 are necessary because it is safer to look for a stake when traversing long distances than to look for a live mine.

After retrieving the mines in Row B, the troops move to A-1 (or A-2) using the azimuth and distance recorded on the form. They then retrieve the mines as in Row B.



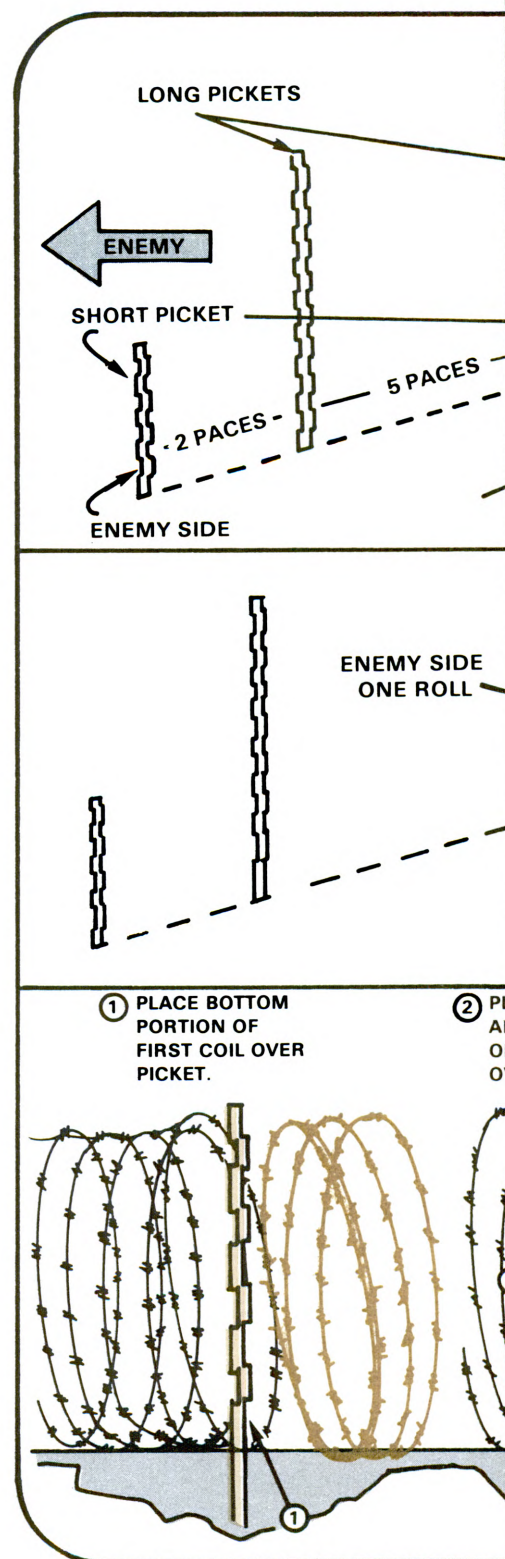
## WIRE AND DEMOLITIONS

En  
ment  
How  
obsta



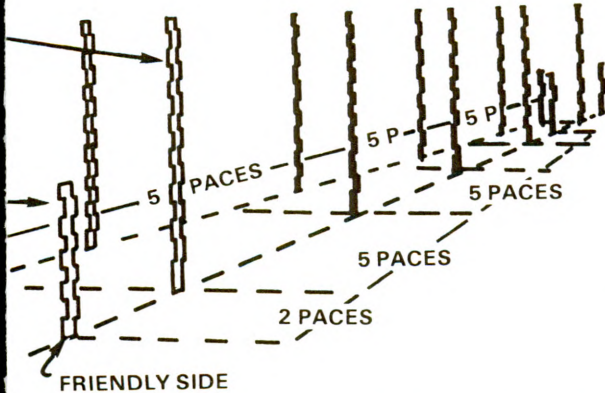
### Material and Labor

long pickets	160
short pickets	4
400-meter reels of barbed wire	3
rolls of concertina	59
staples	317
man-hours to erect	30

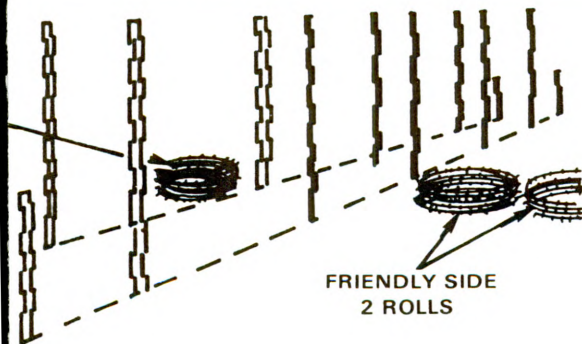




## TO CONSTRUCT A TRIPLE STANDARD CONCERTINA FENCE

**1**

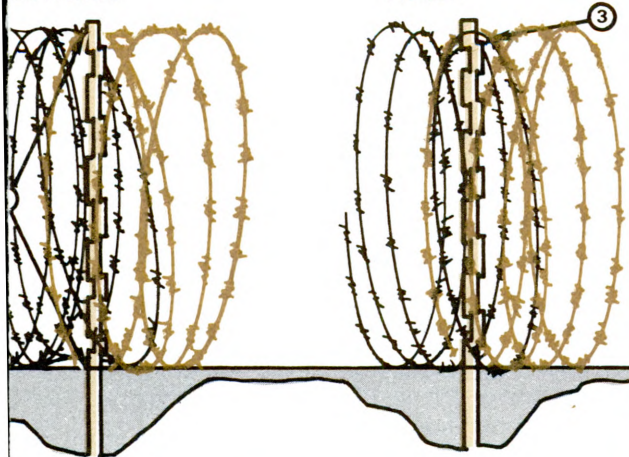
Lay out and install all pickets from left to right (as you face the enemy). Put the long pickets five paces apart, and the short (anchor) pickets two paces from the end of the long pickets. Lay out two rows of pickets. These rows are offset and are placed 3 feet apart.

**2**

Now lay out all rolls of concertina. Place a roll in front of the third picket on the enemy side, and two rolls to the rear of the third picket on the friendly side. This step is repeated for every fourth picket thereafter.

PLACE BOTH BOTTOM  
AND TOP PORTION  
OF SECOND COIL  
OVER PICKET.

③ PLACE TOP POR-  
TION OF FIRST  
COIL OVER  
PICKET.

**3**

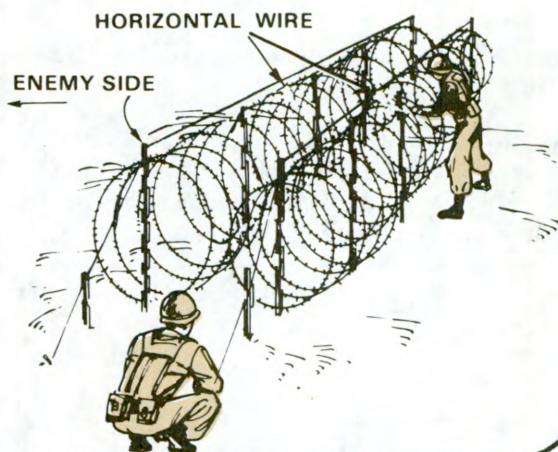
Install the front row of concertina and horizontal wire. Place the concertina over the pickets as shown. Run the horizontal wire from picket across the top of the concertina. Fasten it to the concertina and stakes. Anchor it at both ends with the short pickets.



## TO CONSTRUCT A TRIPLE STANDARD CONCERTINA FENCE CONTINUED

4

Install the rear row of concertina and horizontal wire using the same procedure used for the front row.

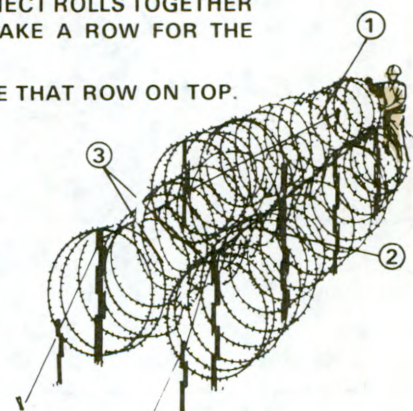


5

Install the top row of concertina, first connecting the rolls of concertina together. Then place this row on top of the first two rows. Secure the top row by fastening it to the horizontal wires of the front and rear rows. Telephone wire, rope, or any other material can be used to secure the rolls and rows together.

① CONNECT ROLLS TOGETHER TO MAKE A ROW FOR THE TOP.

② PLACE THAT ROW ON TOP.



③ SECURE TOP ROW TO BOTTOM ROWS.

## DEMOLITION

The platoon or squad may also perform demolition work. Basic to this is proper preparation of a charge.

**There are two basic ways to detonate an explosive charge:**

NONELECTRIC

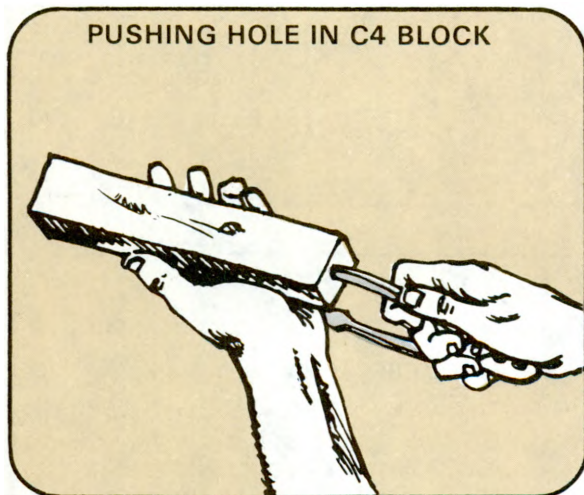
ELECTRIC

## NONELECTRIC

In this way, **troops must follow these steps:**

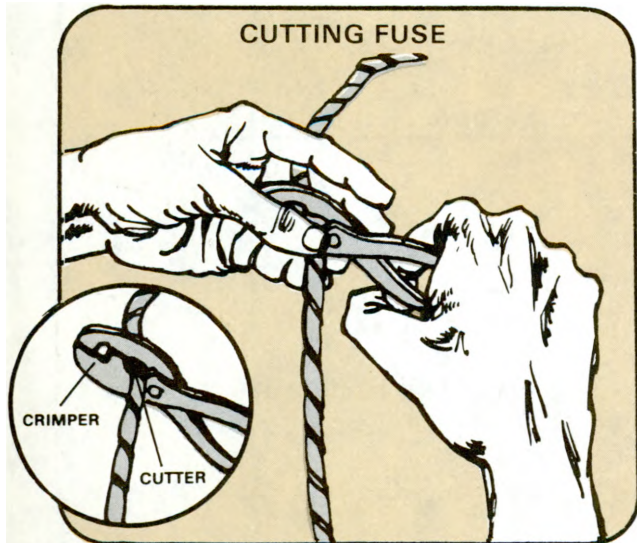
Clear the cap well of a block of TNT or push a hole about the size of a blasting cap (3 cm [1 1/3 in] deep and .65 cm [1/4 in] in diameter) in a block of C4 plastic explosive.

PUSHING HOLE IN C4 BLOCK



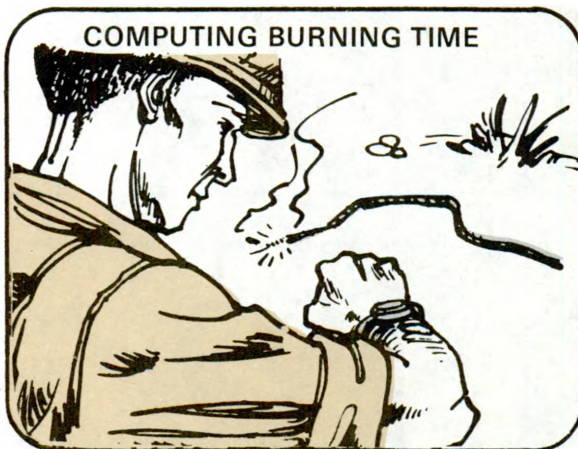
Cut and discard a 15-cm (6-in) length from the free end of the time blasting fuse to prevent a misfire caused by the exposed powder absorbing moisture from the air.

CUTTING FUSE



Compute the burning time of a 91.4-cm (3-ft) section of fuse to help determine how much fuse is needed to allow the person detonating the charge to reach a safe distance from the explosion. Divide this burning time by 3 to find the burning time of 30.5 cm (1 ft). Now divide the time required to allow the person detonating the charge to reach a safe distance from the explosion by the burn time of 30.5 cm (1 ft). This will give the number of cm/ft of fuse needed.

COMPUTING BURNING TIME



Inspect the nonelectric blasting cap to insure it is clear of foreign matter.

INSPECTING CAP



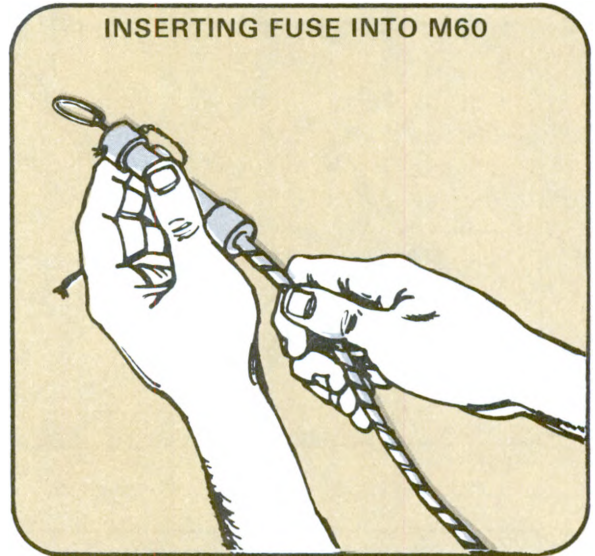
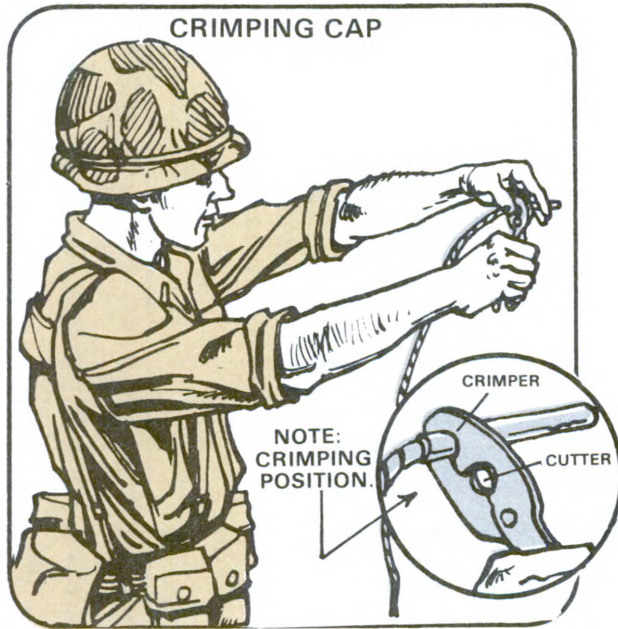
Gently slip the blasting cap over the fuse so that the flash charge in the cap is in contact with the end of the time fuse. **DO NOT FORCE IT IN THE CAP.**



DEMOLITIONS NONELECTRIC CONTINUED

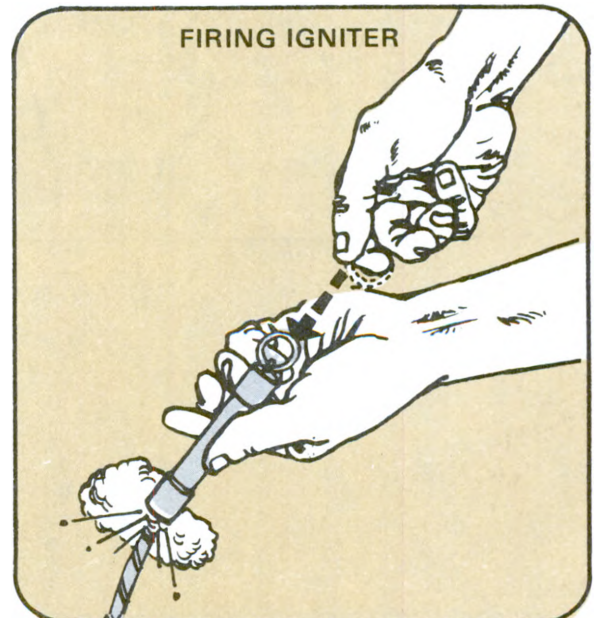
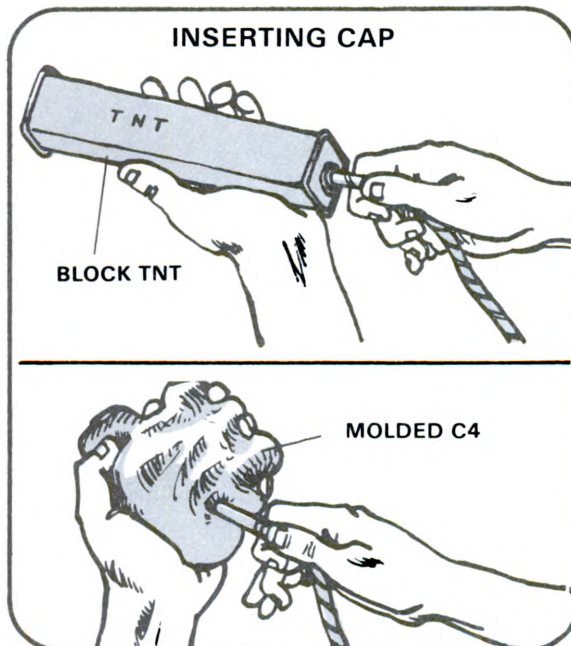
After seating the cap, crimp it 3.2 mm (1/8 in) from the open end of the cap. Hold it out and away from you when crimping.

Insert the free end of the fuse into an M60 fuse igniter and secure it in place by screwing on the fuse holder cap.



When using TNT, insert the blasting cap into the cap well. When using C4, place the cap into the hole you made in the C4 and mold the C4 around the cap.

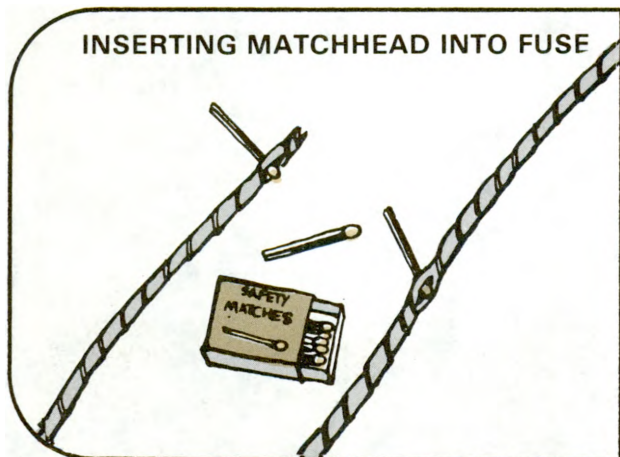
To fire, remove the safety pin, hold the barrel in one hand, and pull on the pull ring with the other, taking up the slack before making the final strong pull. If the fuse igniter misfires, reset it by pushing the plunger all the way in. Try to fire it as before. If it still misfires, replace it.



## DEMOLITIONS NONELECTRIC CONTINUED

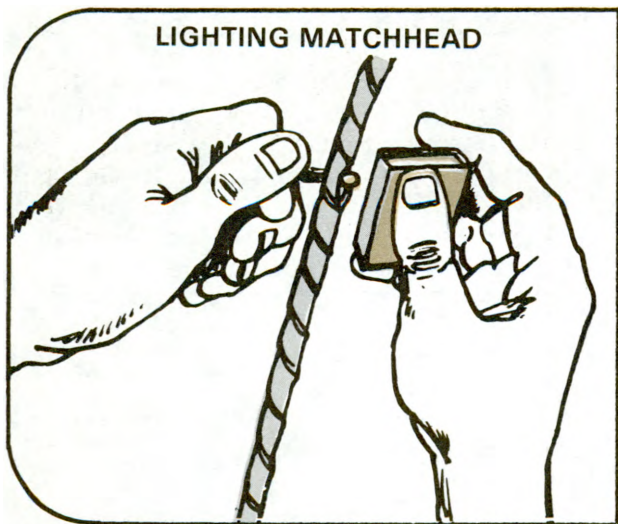
If a fuse igniter is not available, a match can be used to light the fuse. **To do this —**

## INSERTING MATCHHEAD INTO FUSE



split the end of the fuse and place the head of an unlighted match in the split (**make sure the match head is touching the powder train**), and

## LIGHTING MATCHHEAD



then light the inserted match head with another flaming match or by striking the inserted match head on a match box.

If the fuse burns but the explosive charge does not go off, there is a **misfire**. When this happens, wait 30 minutes before attempting to clear it. If the misfire charge was not tamped (**nothing packed around it**), lay a primed charge of at least one block of C4 or TNT beside it. If it was tamped, place at least two blocks of C4 or TNT beside it. Do not move the misfire charge. The detonation of the new charge will detonate the misfire charge.



## ELECTRIC

In this way, troops must follow these steps:

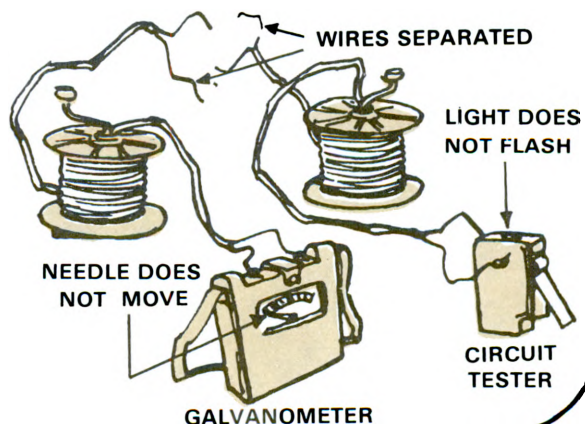
**Step 1.** After locating a safe firing position and a location for the charge, lay out your firing wire from the charge location to the firing position. Before leaving the charge location, anchor the firing wire to something. **Always keep the firing device with you — do not leave it at the firing position.**



**Step 2.** Check the firing wire with a galvanometer or circuit tester to make sure the firing wire does not have a short circuit or a break. (This is best done with one person at each end of the firing wire.)

Separate the firing wire conductors (**bare ends of the wire**) at both ends. Touch those at the firing position end to the galvanometer/circuit tester posts. The needle on the galvanometer should not move or the light on the circuit tester should not come on. If either the light comes on or the needle moves, that firing wire should not be used because the firing wire has a short.

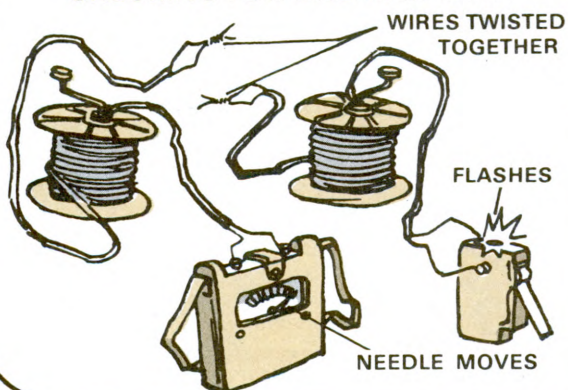
### CHECKING FOR SHORT CIRCUIT





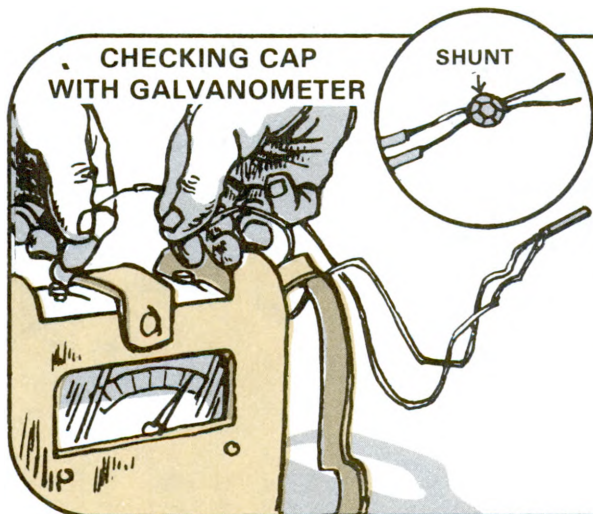
## DEMOLITIONS ELECTRIC CONTINUED

## CHECKING FOR BREAK IN WIRE



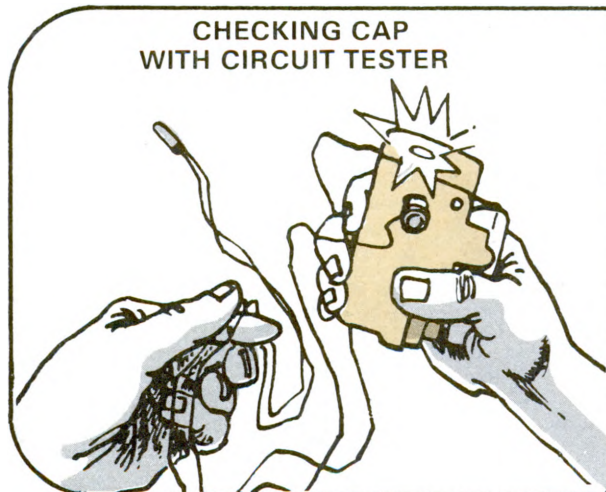
Twist the conductors together at the charge location end of the firing wire and touch those at the firing position end to the galvanometer or circuit tester posts. This should cause a wide deflection of the galvanometer needle or the light to come on in the circuit tester. No movement of the needle in the galvanometer or light on the circuit tester indicates a break in the wire.

## CHECKING CAP WITH GALVANOMETER



**Step 3.** Check the blasting cap with a galvanometer or circuit tester to make sure it does not have a short. Remove the short circuit shunt. Touch one cap lead wire to one post and the other cap lead wire to the other post. When using the galvanometer, the needle should make a wide deflection. If it does, the cap is good. If the needle fails to move or only makes a slight deflection, the cap should be replaced.

## CHECKING CAP WITH CIRCUIT TESTER



When using the circuit tester, the light should come on when you squeeze the handle. If it doesn't, the cap should be replaced.



## DEMOLITIONS ELECTRIC CONTINUED

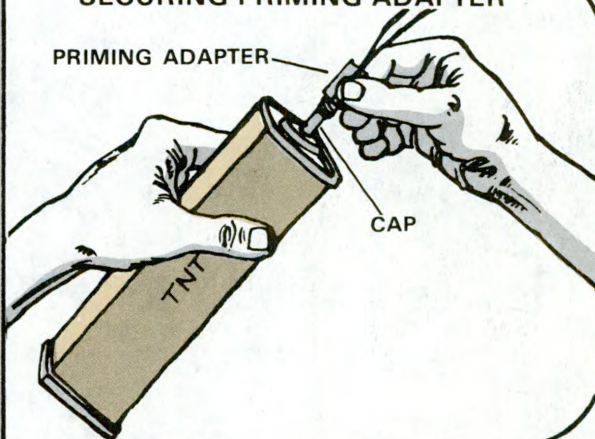
**Step 4.** Move back to the charge location and clear the cap well of a block of TNT or push a hole about the size of a blasting cap in a block of C4 plastic explosive.

## CLEARING CAP WELL



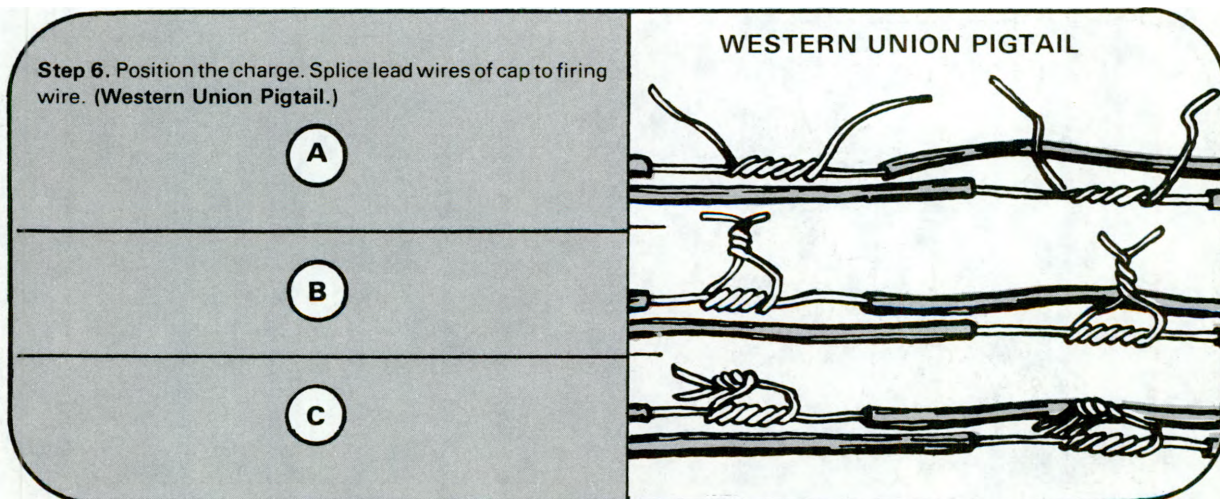
**Step 5.** Insert the cap into cap well of the TNT and secure with priming adapter, or insert the cap into the hole you made in the C4 and mold the explosive around the cap.

## SECURING PRIMING ADAPTER



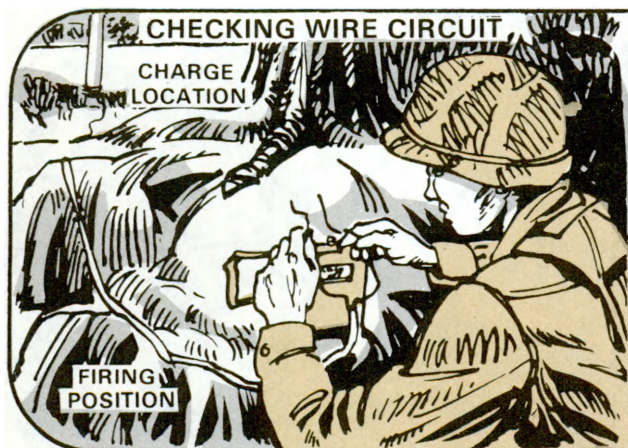
**Step 6.** Position the charge. Splice lead wires of cap to firing wire. (Western Union Pigtail.)

## WESTERN UNION PIGTAIL





## DEMOLITIONS ELECTRIC CONTINUED



Step 7. Move back to firing position and check the wire circuit with the galvanometer or circuit tester. (Same technique as described.)



Step 8. Fasten firing wire conductors to the posts of the blasting machine.



Step 9. Insure that no one is in the blast area and announce FIRE IN THE HOLE three times to warn others of the blast. Then take cover and operate the blasting machine to fire the charge.

If the circuit checked out and the blasting machine does not set the charge off, there is a **misfire**.



## DEMOLITIONS ELECTRIC CONTINUED

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MISFIRE

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If an untamped charge misfires, investigate immediately. If the charge is tamped, wait 30 minutes before investigating.

**Follow these steps —**

- 1 check the firing wire connection to the blasting machine to be sure that the contacts are good;
- 2 make two or three more attempts to fire the charge;
- 3 try to fire again using another blasting machine;
- 4 disconnect the firing wire from the blasting machine and shunt the ends of the wire;
- 5 move to the charge site to investigate (**carry the blasting machine with you**);
- 6 check the entire circuit, including the firing wire, for breaks and short circuits;
- 7 make no attempt to remove the primer or the charge;
- 8 if the fault has not been found, place a new primed charge beside the misfire charge;
- 9 disconnect the old blasting cap wires from the firing wire and shunt the ends of the blasting cap wires; and then
- 10 attach the new blasting cap wires to the firing wire and fire the new charge (**this will detonate the misfire charge also**).

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MISFIRE

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## BREACHING AND CLEARING OBSTACLES

Obstacles are used to stop movement, to slow units down, or to cause units to move into an area which the enemy has selected as a kill zone. If the enemy has selected an area, he will have prepared it so that he can inflict great damage on his opponent moving into the kill zone. The enemy will exploit natural obstacles such as defiles, rivers, thick woods, swamps, and cliffs, and reinforce them with manmade obstacles. Leaders must know the tactics and techniques used to overcome manmade obstacles.



Some obstacles may not restrict dismounted elements but will restrict vehicular movement. The platoon may have to clear obstacles to help vehicles go forward. Obstacles are normally covered by enemy direct and indirect fire to keep attacking troops from breaching them. The platoon may not be able to keep the enemy from knowing that it is going to breach. However, the platoon should try to keep the enemy from knowing where and when it will try to breach.

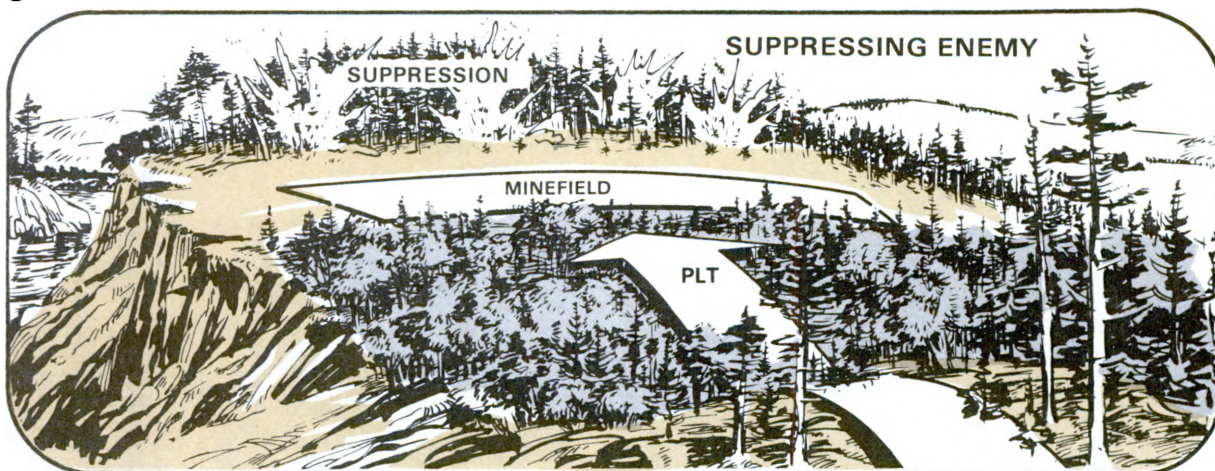


## MINEFIELDS

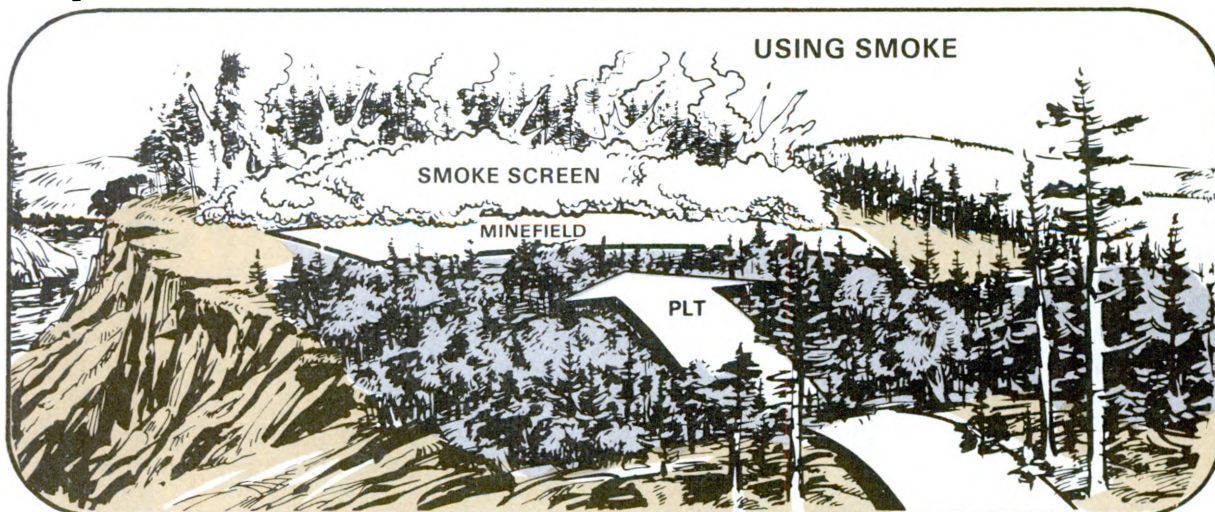
To maintain the momentum of an attack, the platoon must be prepared to breach minefields.

**These steps are followed to breach a minefield:**

**Step 1. Suppress the enemy covering the obstacle.** Artillery and mortar fire is used to suppress the enemy. If indirect fire is not available, grenade launcher and machine-gun fire is used.

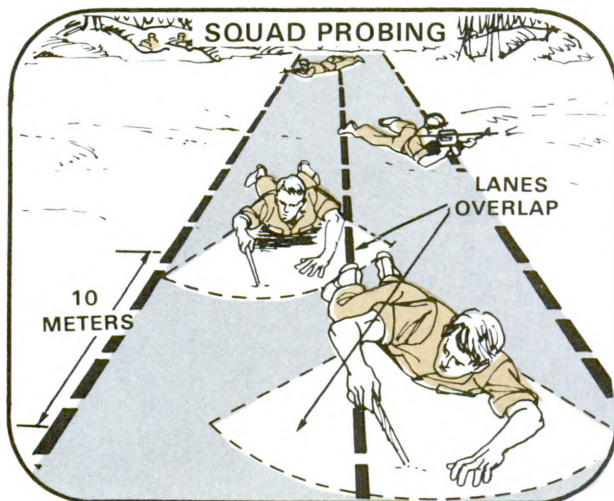
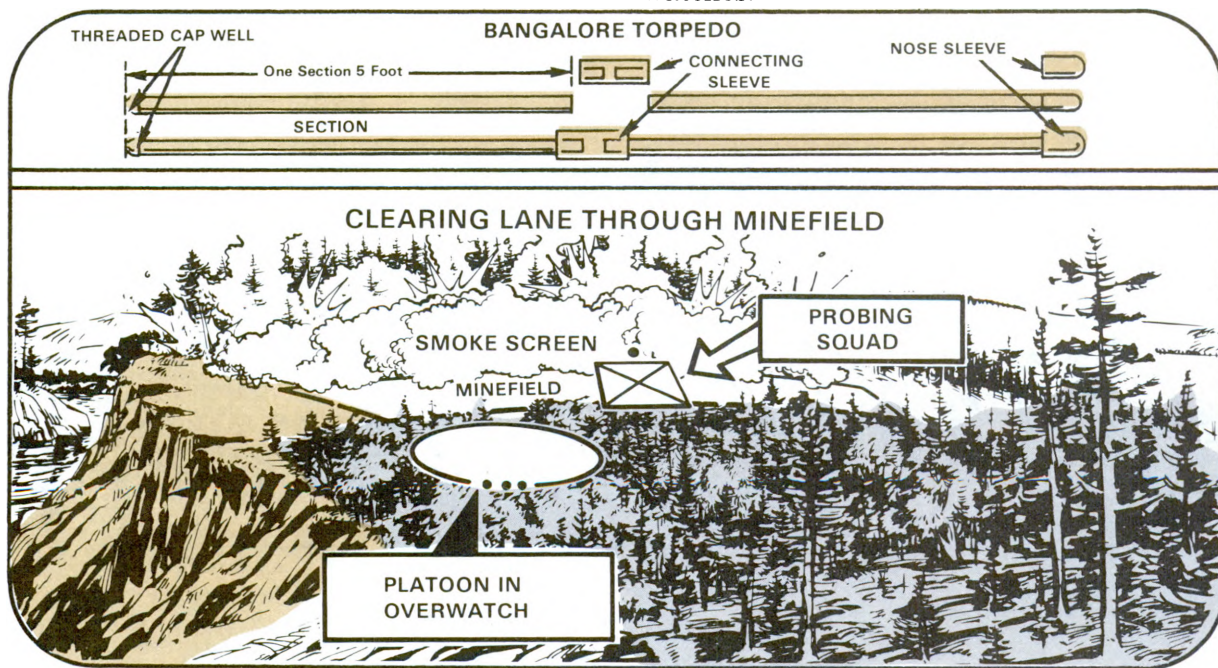


**Step 2. Request smoke to obscure the obstacle area and conceal friendly troops.**





**Step 3. Clear a footpath/lane and mark the mines that are found.** The preferred way to clear a lane through a minefield is to use a rocket-propelled line charge or bangalore torpedo. However, the only way to clear a minefield without special equipment is to probe with pointed sticks. Bayonets should not be used because they can detonate AP mines and other type magnetic mines. One squad probes while the platoon (-) overwatches.



The squad probing the footpath/lane through the minefield uses two probers: one in front, clearing a lane wide enough to crawl through; and a second one clearing 10 meters behind the first prober and slightly to one side so that their lanes overlap. The probers should not carry their weapons, field packs, load-carrying equipment, helmets, etc. Their equipment is carried by other squad members. Two other men crawl along behind to secure the probers, to carry additional supplies, or to take a prober's job if one becomes a casualty. The probers should be rotated often to keep them from getting tired and careless. The remaining squad members overwatch the probers.



The probers mark mine locations with sticks, engineer tape, cloth, or toilet tissue. They do not try to remove mines.



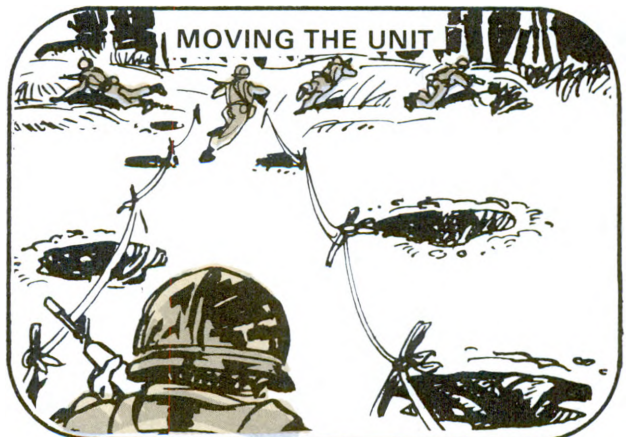
**Step 4. Secure the far side.** As soon as the squad has cleared a footpath/lane, it moves through the lane and secures the far side of the minefield.



■  
**Step 5. Destroy the marked mines with explosives (1-lb charges).**

■  
**Step 6. Mark cleared lane.**

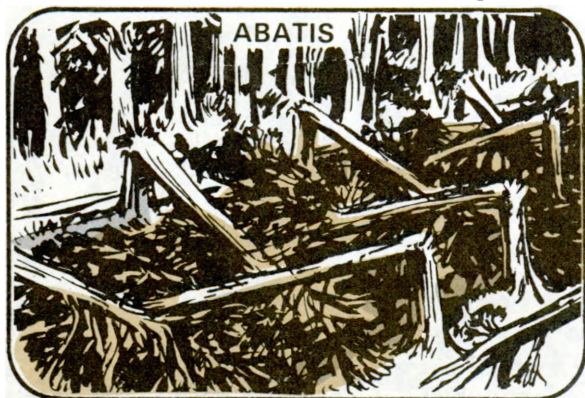
■  
**Step 7. Move the unit through the obstacle.**





## ABATIS

An abatis is an obstacle created by cutting down trees so their tops are criss-crossed and pointing toward the expected enemy direction. It is most effective for stopping vehicles in a forest. The trees are left attached to the stumps as high as possible to make removal more difficult. This obstacle may be reinforced with mines and boobytraps.



These steps are followed to clear an abatis:

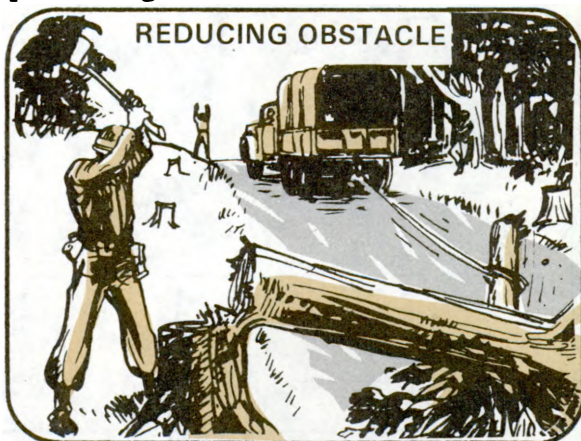
**Step 1. Suppress the enemy covering the obstacle.**

**Step 2. Request smoke to obscure the obstacle area and conceal friendly troops.**

**Step 3. Secure the far side.**

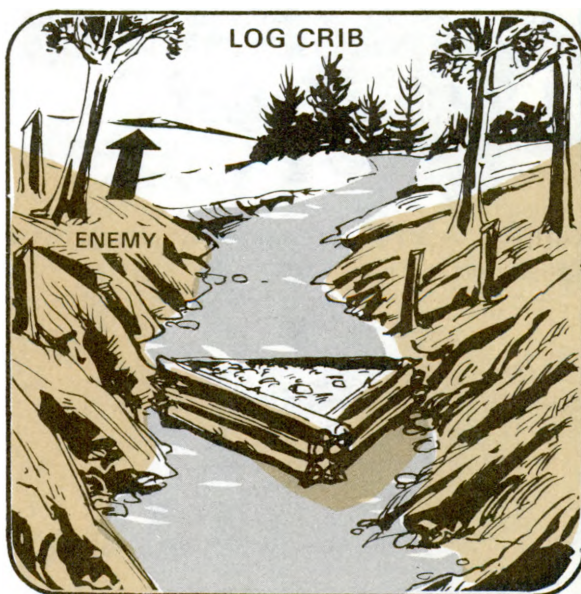


**Step 4. Reduce the obstacle.** Mines and boobytraps must first be found and then neutralized by exploding them with C4, or by pulling their tripwires with grappling hooks and long ropes. Use pioneer tools or explosives to cut the trees from their stumps. Tracked and wheeled vehicles can be used to pull the logs out of the road.



## LOG CRIB

A log crib is an obstacle constructed of logs, earth, and rocks. The logs are used to make triangular cribs which are filled with earth and rock. These are used to block narrow roads and defiles.





These steps are followed to clear a log crib:

**Step 1. Suppress the enemy covering the obstacle.**

**Step 2. Request smoke to obscure the obstacle area and conceal friendly troops.**

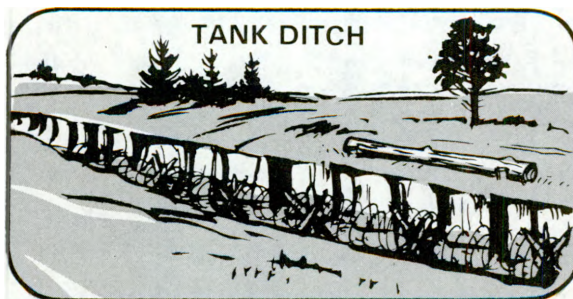
**Step 3. Secure the far side.**

**Step 4. Reduce the obstacle.** Use direct fire weapons, explosives, pioneer tools, and vehicles to reduce the obstacle.



## TANK DITCHES

Tank ditches are usually in open terrain. They are at least 4 meters (13 ft) wide and 1.8 meters (5 ft) deep. The enemy may put barbed wire in them to keep tank crews or infantry from dismounting and using the ditch for shelter. He may prepare the approaches, sides, and bottom of the ditch with AT and AP mines or chemicals to make breaching difficult.



These steps are followed to clear a tank ditch:

**Step 1. Suppress the enemy covering the obstacle.**

**Step 2. Request smoke to obscure the obstacle area and conceal friendly troops.**

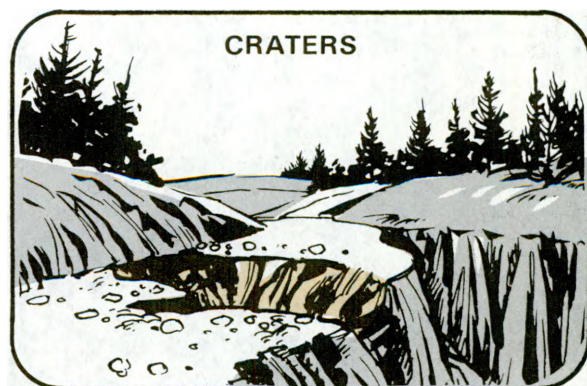
**Step 3. Secure the far side.**

**Step 4. Reduce the obstacle.** Use a bulldozer, tank with blade, or combat engineer vehicle (CEV) to push down the sides of the ditch. Explosives may also be used to blow down and slope the sides of the ditch.



## CRATERS

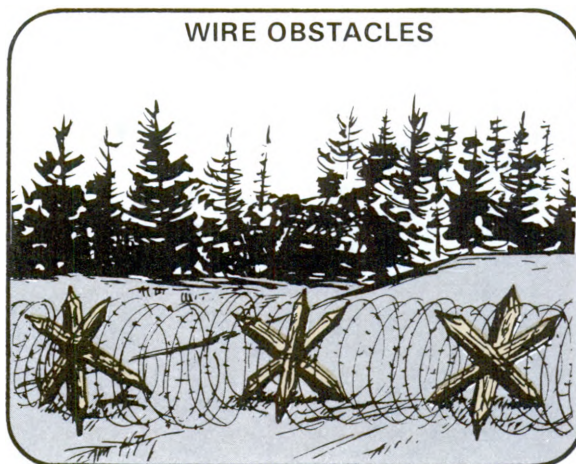
The enemy uses explosives to create road craters. He will leave the loose spoil around the sides of the crater to make it difficult for a tank to back out.



A crater is cleared using the same steps as with a tank ditch.

## WIRE

The enemy uses wire obstacles to separate infantry from armor. He also uses them as roadblocks against wheeled vehicles.



These steps are used to breach a wire obstacle:

**Step 1. Suppress the enemy covering the obstacle.**

**Step 2. Request smoke to obscure the obstacle area and conceal friendly troops.**

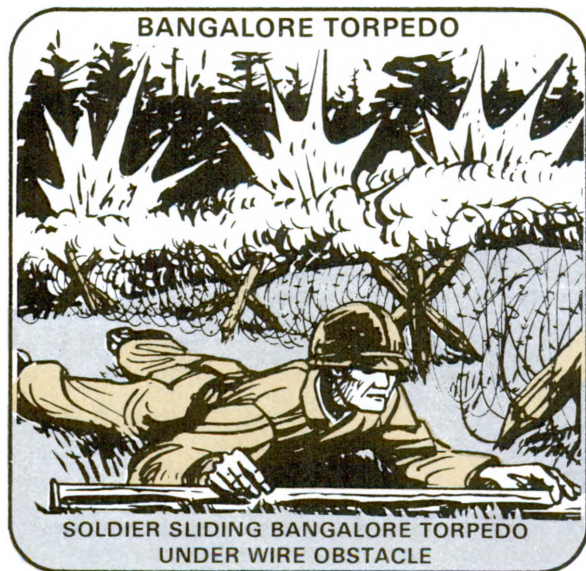
**Step 3. Clear a lane through the wire.** Use wire cutters, bangalore torpedoes, or explosives to remove the wire. Watch out for AP mines and boobytraps. Mark mines and boobytraps with engineer tape, cloth, or anything recognizable. One squad breaches while the platoon (-) overwatches. Tank fire, CEV fire, and massed indirect and direct fire can help breach the wire.

**Step 4. Secure the far side.** As soon as the clearing squad has cleared a lane, the squad moves through the lane and secures the far side.

**Step 5. Destroy the marked mines with explosives or grappling hooks.**

**Step 6. Mark cleared lane.**

**Step 7. Move unit through the obstacle.**





## APPENDIX G

# OBSERVATION DEVICES AND BATTLEFIELD ILLUMINATION

### LIMITED VISIBILITY

On the battlefield, there are conditions other than darkness that limit visibility. All armies use smoke to limit visibility. The dust and smoke of combat often obscure parts of the battlefield. Rain, fog, snow, and natural dust can also limit visibility. These conditions reduce the effectiveness of most night vision devices.



At night, a battlefield may be illuminated by artificial light to improve visibility. When this is the case, a unit may fight using daylight tactics and techniques.

The platoon should use the limited visibility conditions to conceal troops, help achieve surprise, and reduce the ability of the enemy to aim well.

Problems which must be overcome are —

- difficulty of control of men and weapons,
- reduced ability to find targets,
- difficulty in telling enemy from friendly troops,
- STANO devices may be neutralized by the enemy, and
- navigation is difficult.

This appendix describes some of the equipment and techniques available to overcome these problems.

## STANO DEVICES

Surveillance, target acquisition, and night observation (STANO) devices help troops accomplish their mission.



STANO devices help soldiers —

- located and observe the enemy,
- fire weapons at the enemy, and
- detect enemy active STANO devices.

## EQUIPMENT

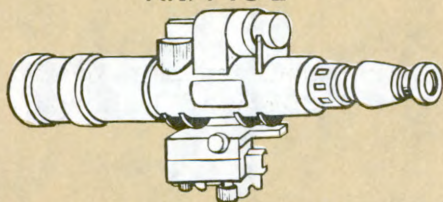
**Binoculars** aid the naked eye in daytime and at night when a moderate ambient light level (**moonlight, flares, searchlight, etc.**) exists. They will not help see through smoke, dust, or precipitation.



**The Starlight Scope** is an image-intensification device which magnifies even the smallest amount of light so that the operator uses it like a telescope. The starlight scope is a battery-operated, passive device; it does not put out any light signal. The starlight scope's ranges depend on ambient light levels. Extremely low light levels, rain, fog, smoke, and dust reduce the scope's effectiveness. When using one in clear air, low light levels can be overcome by using artificial light. Infrared light also increases its effectiveness. Looking directly at a visible light source with the starlight scope will cause the device to shut off.

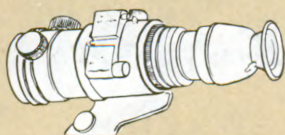
Operators of starlight scopes develop eye fatigue and lose night vision temporarily. Operators should be given 5- to 10-minute breaks every 30 minutes to prevent fatigue. An operator should not operate a starlight scope for more than 6 hours. It is best to use two operators who alternate every 30 minutes.

AN/PVS-2



AN/PVS-2 may be mounted on an M60 machinegun or M16 rifle. Its range is 400 meters in moonlight and 300 meters in starlight. It weighs 6 pounds.

AN/PVS-4



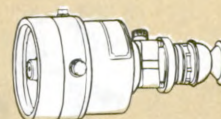
AN/PVS-4 is a small, lightweight starlight scope which will replace the AN/PVS-2. It can be mounted on the M14, M16, M60, M72A1, and M203. Its range is 400 meters in starlight and 600 meters in moonlight. It weighs 3.7 pounds.

AN/TVS-2



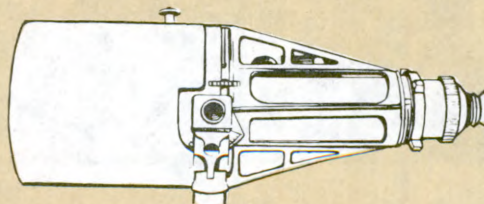
AN/TVS-2 may be mounted on a cal .50 machinegun or on a tripod by itself. Its range is 800 meters in starlight and 1,000 meters in moonlight. It weighs 15 pounds.

AN/TVS-5



AN/TVS-5 will replace the AN/TVS-2. It can be mounted on the cal .50 machinegun and the 106-mm recoilless rifle. Its range is 1,000 meters in starlight and 1,200 meters in moonlight. The sight will allow firing accuracy equal to that in daylight. It weighs 7.7 pounds.

AN/TVS-4

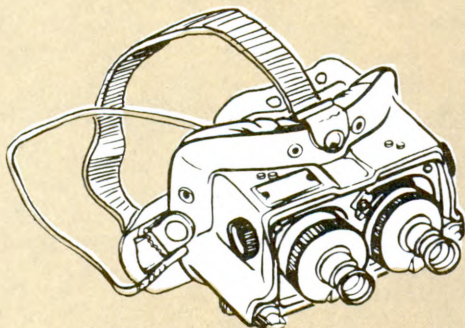


AN/TVS-4 Medium Range Night Observation Device (NOD) has a range of 1,200 meters in starlight and 2,000 meters in moonlight. It weighs 34 pounds. It may be mounted on a minitripod or a surveyor's tripod.

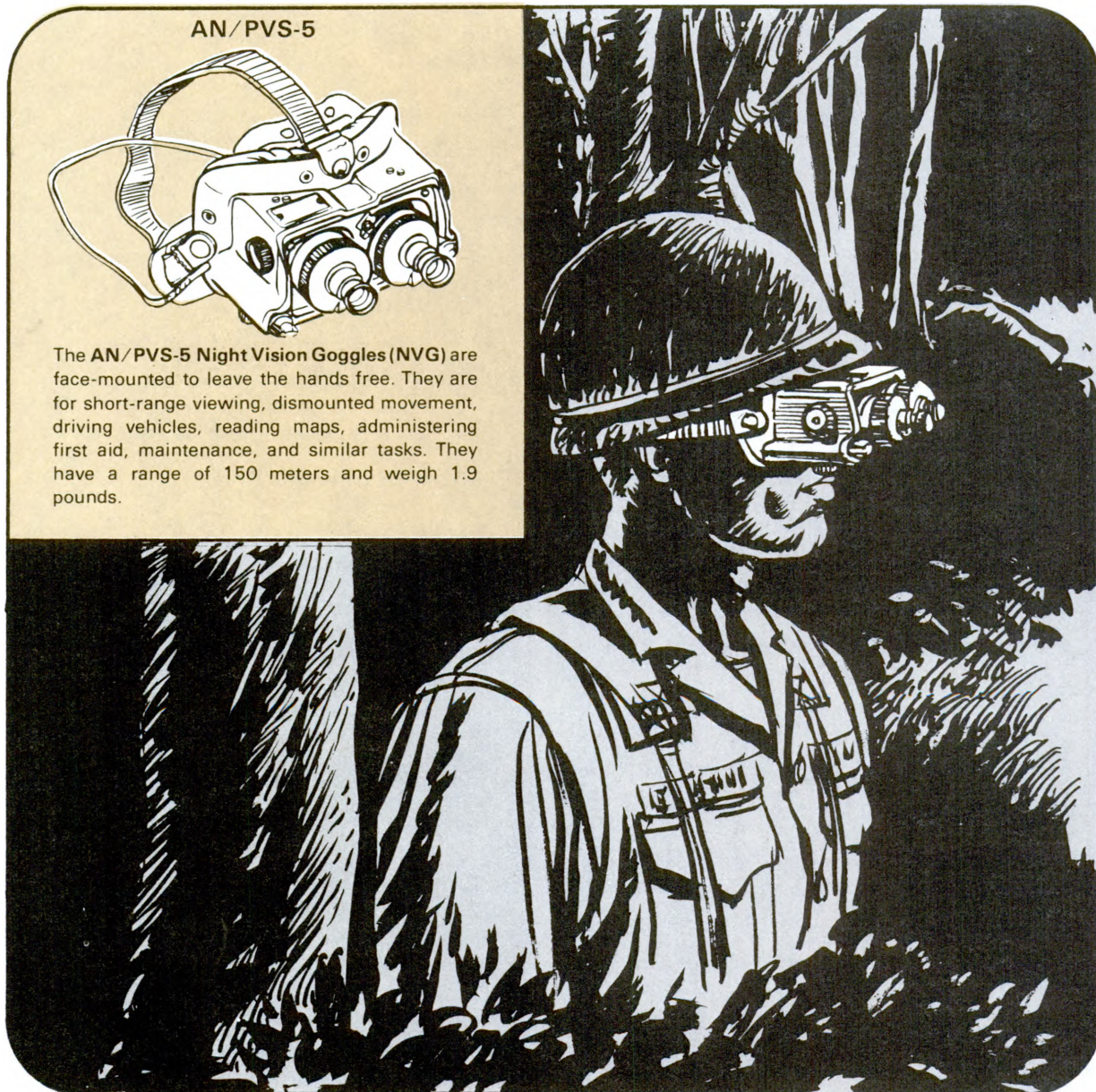


## STARLIGHT SCOPES CONTINUED

AN/PVS-5



The AN/PVS-5 Night Vision Goggles (NVG) are face-mounted to leave the hands free. They are for short-range viewing, dismounted movement, driving vehicles, reading maps, administering first aid, maintenance, and similar tasks. They have a range of 150 meters and weigh 1.9 pounds.



## REMOTE ELECTROMAGNETIC SENSORS

Remote electromagnetic sensors (REMS) are critical to defense when visibility is poor. They are used on avenues of approach and in deadspaces or gaps forward of or between platoons. They have a limited sensor-to-

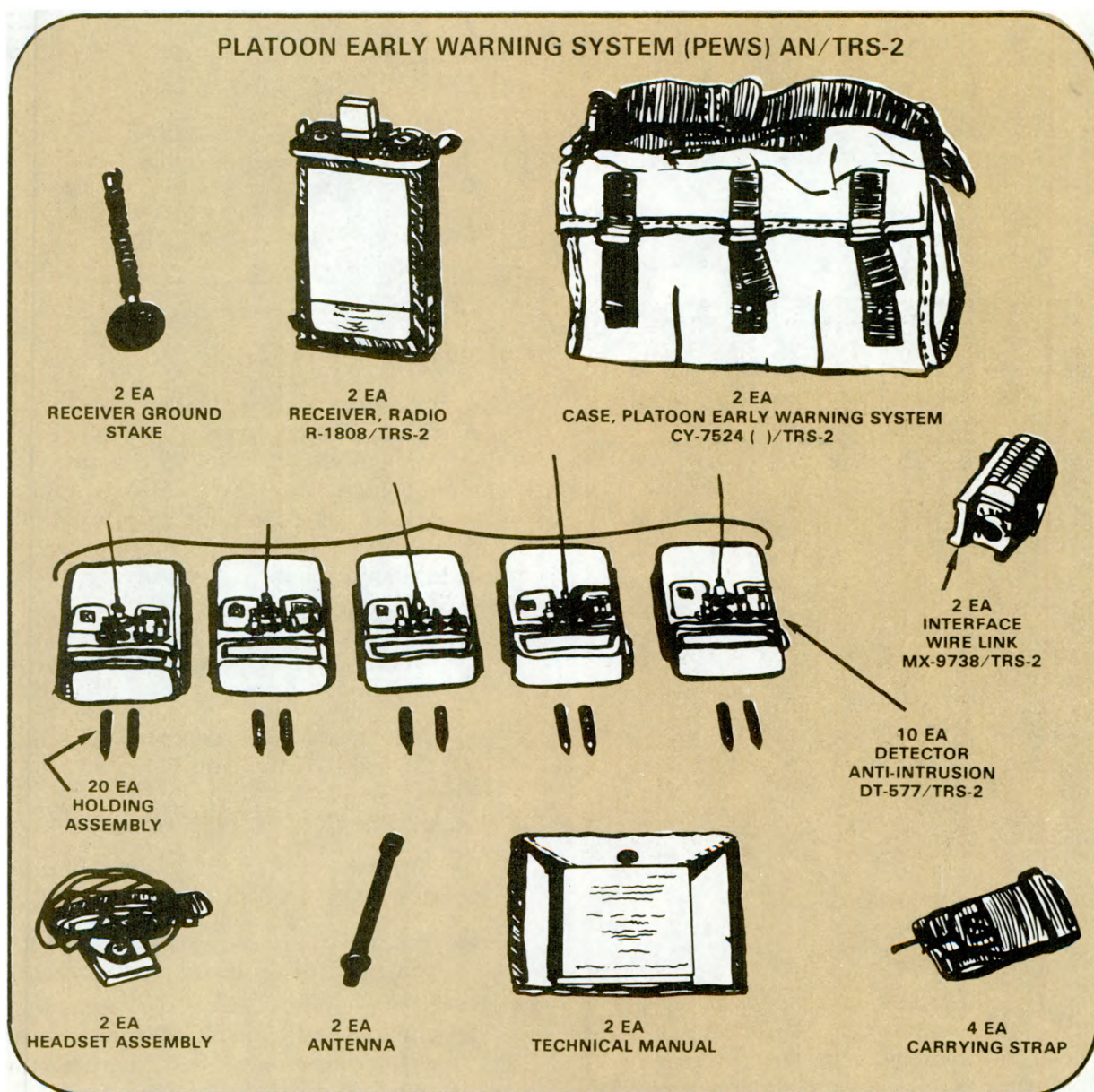
target range, so they must be positioned with care. When positioned parallel to an avenue of approach, REMS can tell the approximate number of troops or vehicles passing the sensors, and their rate of march.



REMS are sensitive to animal traffic such as deer and dogs. Well-trained men monitoring the sensors can differentiate between animals and troops.

The AN/TRS-2 Platoon Early Warning System (PEWS) has ten ground-implanted sensors. They transmit a radio or wire signal

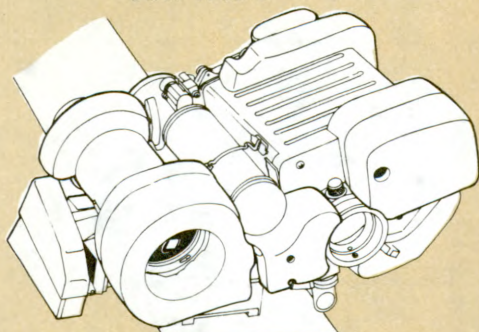
to a receiving set that indicates movement in the area and which sensor is reporting. PEWS will also differentiate between foot and vehicular movement. This device is ideal for monitoring avenues of approach which are masked by terrain or poor visibility. Each sensor can detect targets up to 15 meters from the sensor location. Its signal can be transmitted 1,500 meters.



## THERMAL IMAGERY DEVICES

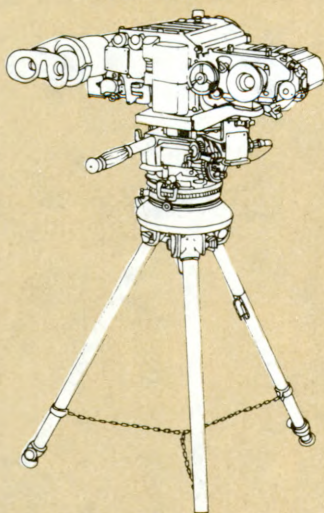
Thermal imagery devices penetrate fog, smoke, dust, and light foliage as well as darkness. They improve the ability to operate under any condition limiting visibility.

AN/TAS-5



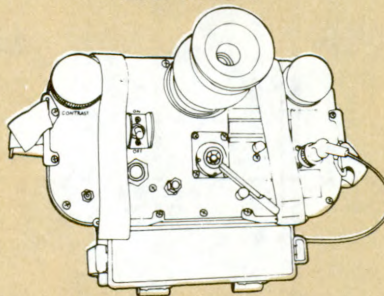
The AN/TAS-5 Dragon Night Tracker is the thermal imagery system for the Dragon. It gives the Dragon a lightweight, long-range, limited visibility capability. It can detect targets out to 2,000 meters and can recognize targets out to 1,200 meters.

AN/TAS-6



The AN/TAS-6 Night Observation Device-Long Range (NOD-LR) is in the company HQ TOE but may be used by a platoon or squad. It weighs 48 pounds. It can detect targets out to 3,500 meters and recognize targets out to 3,000 meters.

AN/PAS-7



The AN/PAS-7 is a handheld thermal viewer weighing 12 pounds. It can detect troops out to 400 meters and recognize vehicles out to 1,000 meters. It can also detect the presence of mines and some boobytraps by their heat.

## PLANNING THE USE OF STANO EQUIPMENT

No single type of STANO item can fill all needs, so it is best to use several types. A STANO mix might include PEWS sensors to cover out-of-sight areas and deadspace; night vision devices for close range; and thermal imagery for camouflage and smoke penetration and for very low light conditions.

Such mixtures can —

- locate friendly and enemy units and note their movements, and
- detect use of certain STANO devices by an enemy.

A mix of devices is best because —

- conditions may preclude the use of one certain device,
- several devices permit overlapping sectors and more coverage, and
- the capabilities of one type device can compensate for the limitations of another.



## BATTLEFIELD ILLUMINATION

The intent of artificial lighting is to illuminate enemy troops without illuminating friendly troops. Since friendly troops could be adversely affected by their own light sources, they must know the characteristics of artificial illumination systems and the effects of darkness, weather, and terrain on those systems.

### CATEGORIES OF ARTIFICIAL LIGHT

**Visible light** from flares, illumination grenades, and mortar and artillery illumination rounds is the simplest form of illumination. It is used most to continue daylight operations after dark, when preparation time is limited, or to offset an enemy advantage in night vision devices. The disadvantage of using visible light is that, at close ranges, it lets the enemy see as well as the friendly troops.

**Invisible light** from a near infrared source or infrared light filter is almost impossible to see with the unaided eye. It is more secure than visible light because it takes special devices to detect it. Infrared light improves the effectiveness of starlight scopes.



## EMPLOYMENT CONSIDERATIONS FOR ARTIFICIAL LIGHT SOURCES

### FLARES

**Ground flares** are primarily defensive in nature in that they are often used to provide early warning. They can be detonated remotely by pull-pins or trigger-release devices.

**Hand-fired flares (parachute flares and star clusters)** can be used to illuminate specific areas.

Flares are not suitable for continuous illumination.

### ILLUMINATING ROUNDS (PARACHUTE-SUPPORTED FLARES)

Artillery and mortar rounds are set by the gun crews to detonate at a height of burst that lets the flare burn out just before it reaches the ground. If fire is a hazard, the height of burst should allow burnout in the air. Grenade launcher flares have a standard height of burst and burn time. Strong winds require an increase in the rate of fire for continuous illumination.

Artillery and mortar illumination should not be detonated over or behind friendly troops because the rounds may illuminate them, and cannisters may fall on them.

When fog, haze, dust, smoke, or falling snow reduce the intensity of the illumination, low airburst shells may be used as navigation aids. Their intense light is visible, although they may not provide their normal illumination.

### SMOKE

Reducing visibility in part of the battlefield usually helps the attackers more than the

defenders. Defenders have selected positions with good observation and fields of fire as well as cover and concealment. A defender who cannot see, fires with little accuracy. This lets attackers reach their objective with fewer casualties.

Obscuration is best attained by using smoke rounds. Smoke from grass and brush fires, and dust kicked up by gunfire or vehicle movement, may also cause obscuration.

Smoke rounds are available from mortars, and artillery. Smokepots, smoke grenades, smoke generators, and smoke-generating helicopters may also provide smoke.

Smoke affects both friendly and enemy troops. **Some effects of smoke are:**

- It may reduce the ability of troops who employed the smoke to see and hit their targets.
- It may affect other friendly units.
- It may make starlight scopes ineffective at night.
- It may reduce the effectiveness of overwatching and supporting weapons.
- It may slow the advance and increase control problems.
- It may hide withdrawals and movement.
- It may spoil enemy observation and the accuracy of his fire.



## CONTROL WHEN VISIBILITY IS LIMITED

Some ways to help **control troops and units** are:

### ● IDENTIFICATION

- Have troops wear luminous tape on the back of helmets or on armbands.

### ● MOVEMENT

- Maintain visual contact by reducing the intervals between men.
- Slow down and use guides.
- Have leaders move forward where they can control direction and speed.
- Establish SOPs for audible and visual signals such as whistles, lights, flares, etc.

### ● NAVIGATION

- Use guides.
- Use compassmen and pacemen.
- Use infrared beams (for example, use a metascope to guide a patrol through the wire when making a passage of lines).
- Use landmarks to maintain direction.

### ● FIRE

- Use preplanned artillery orienting rounds to help determine location and direction. (If used too much, artillery fire may reveal a unit's location.)



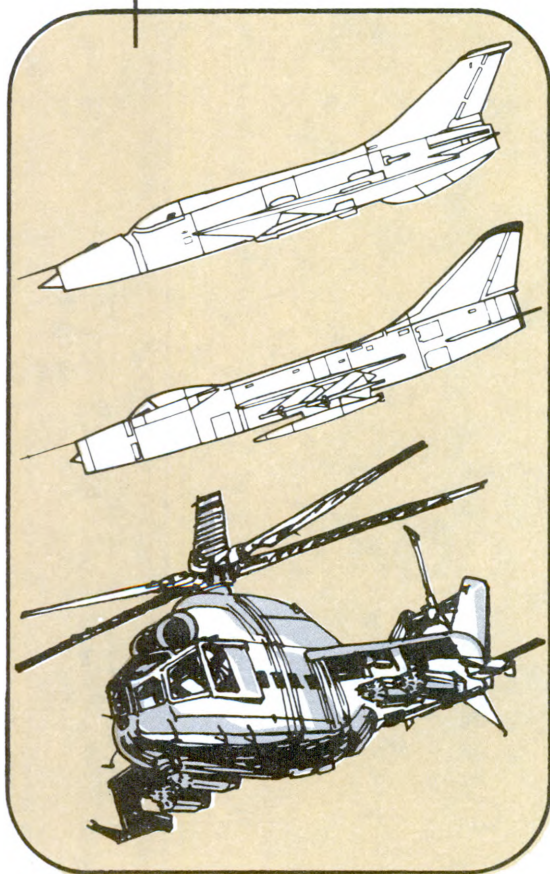




## APPENDIX H

# AIR DEFENSE

Enemy aircraft can attack and kill any target they see. Platoons **MUST** use cover, concealment, camouflage, dispersion, and early warning. They must also be able to use their weapons well for air defense.



The best protection from air attack is **concealment**. Enemy aircraft will attack ground troops whose location has been discovered. At all times, concealment and camouflage must be given a high priority. The sighting of a few soldiers can lead to the disclosure of an entire unit, even if most are well concealed.

### EARLY WARNING

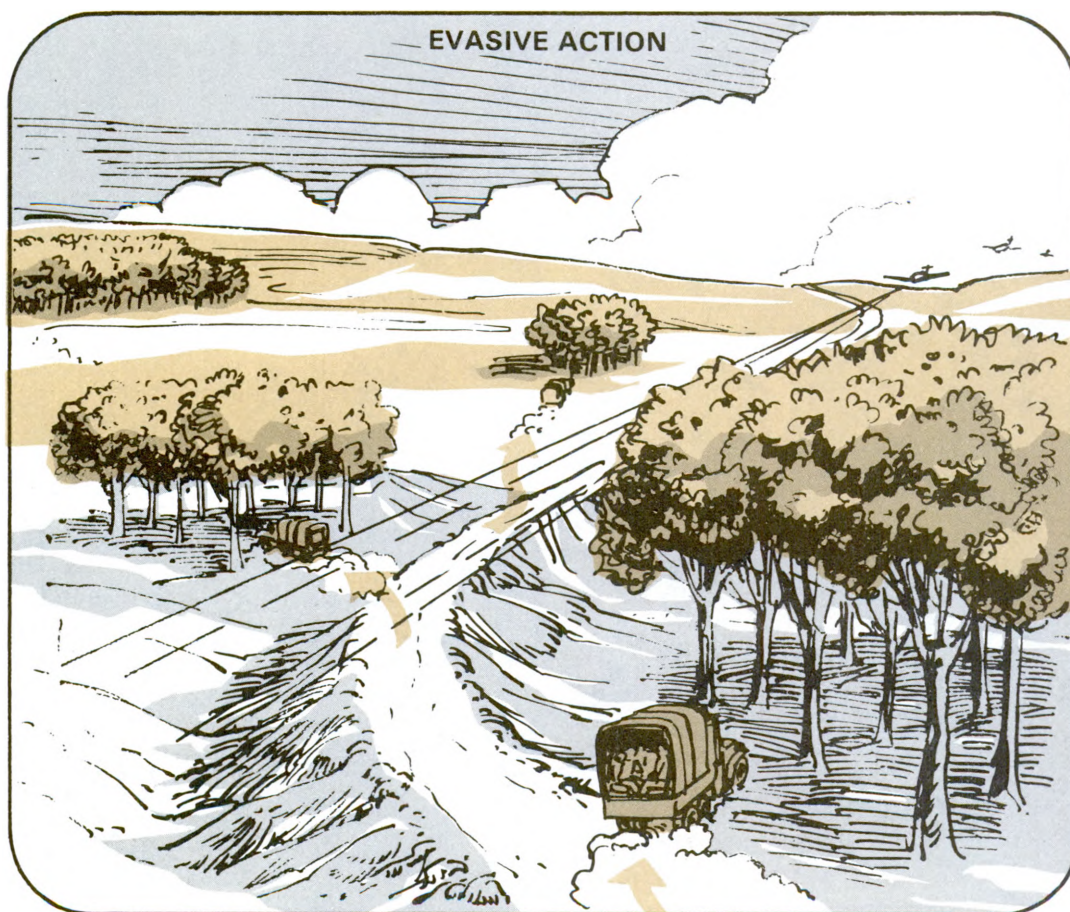
Early warning is necessary to give troops a chance to take cover. The warning may come through communications channels or be given by local OPs or air guards. All OPs should have air watch as one of their duties. Alertness for enemy aircraft should be part of normal observation. Air guards must be posted. When a platoon is in vehicles, its leaders should designate air guards and give each one a sector to watch.

Hostile low-flying aircraft may appear suddenly from behind low hills, trees, or haze. To gain surprise, they may attack with the sun behind them.

## ACTION WHEN ATTACKED

The alarm must be given as early as possible if troops in the open are to have a chance to take cover. This warning is the responsibility of every man in the area and is passed by whistle, voice, radio, or any other method. The alarm signal should be part of the SOP. When the alarm is given, all troops except those in close contact with the enemy take cover at once — below ground level, if they can. They stay there until the all-clear is given.

If troops are in vehicles when an alarm is given, evasive action is taken at once. Each vehicle turns away from the aircraft's direction of attack and seeks cover. Soldiers then fire at attacking aircraft, if they can.

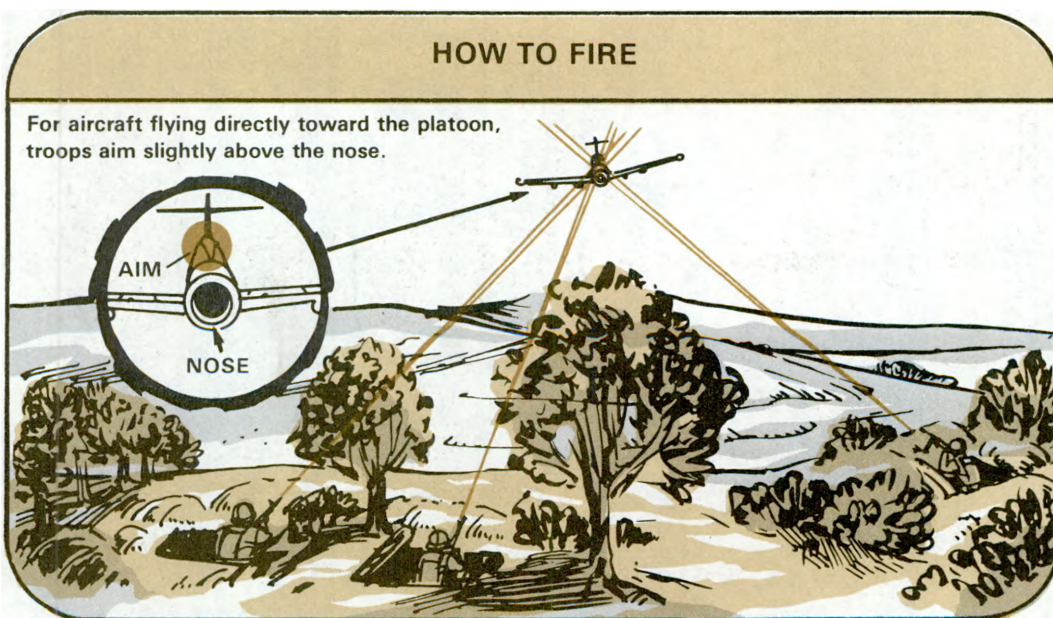




## ENGAGEMENT OF HOSTILE AIRCRAFT

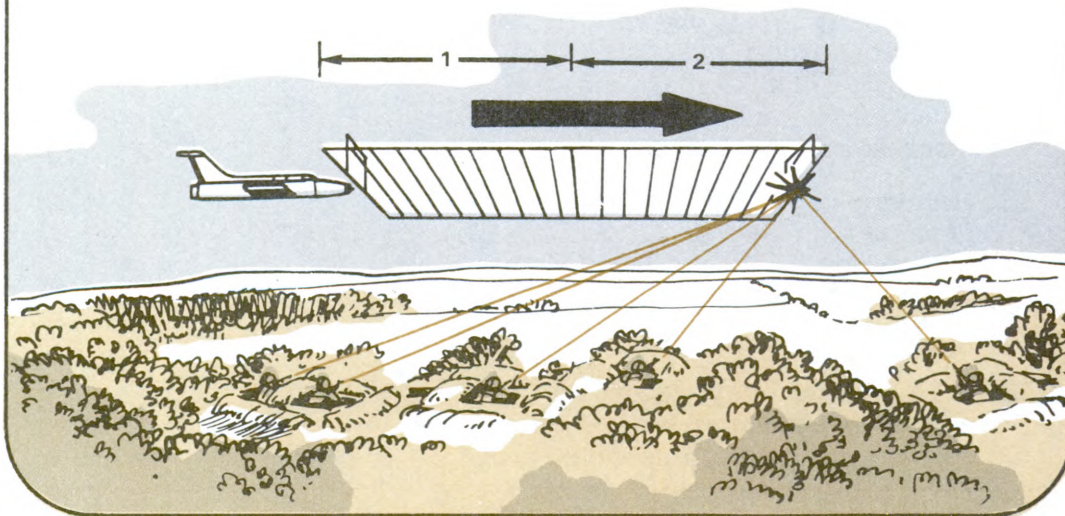
Rules for firing at aircraft vary. These are guides:

- First, positively identify the aircraft as hostile. If friendly air defense artillery crews fire at it, the platoon may also fire. However, commanders may restrict air defense fire if friendly aircraft are in the area.
- If aircraft attack the platoon, the platoon returns fire.
- If aircraft are not attacking, the platoon withholds fire to avoid disclosing its position.
- Small arms may be fired at attacking aircraft during or after its first attack. All platoon members fire to saturate the air space through which the plane will fly. They should not try to track the plane but concentrate fire on one area through which the plane must fly.

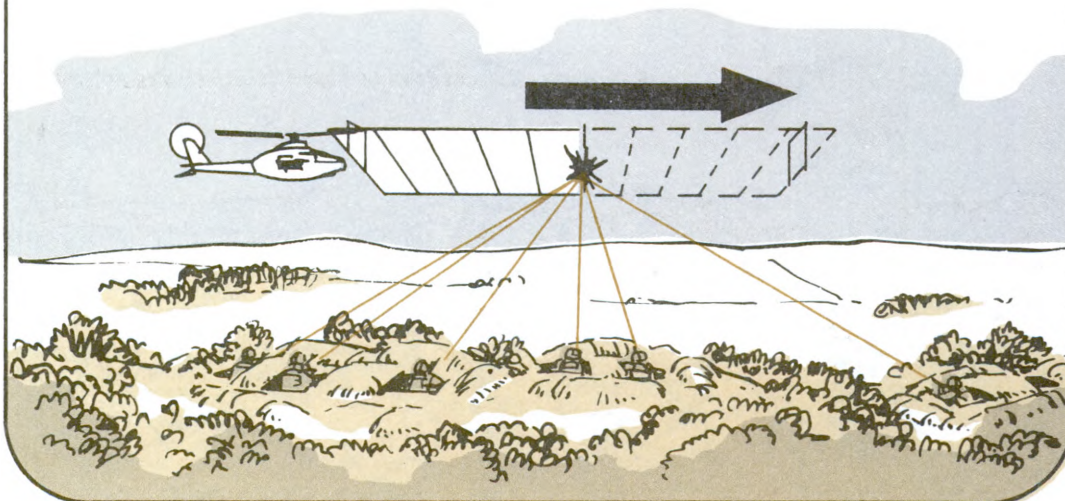


**HIGH-PERFORMANCE AIRCRAFT**

To engage a jet plane flying a crossing course, all troops aim and fire their weapons two football-field lengths in front of the plane.

**LOW-PERFORMANCE AIRCRAFT**

For helicopters and propeller-driven aircraft, troops aim and fire at a point half a football-field length in front of the aircraft.

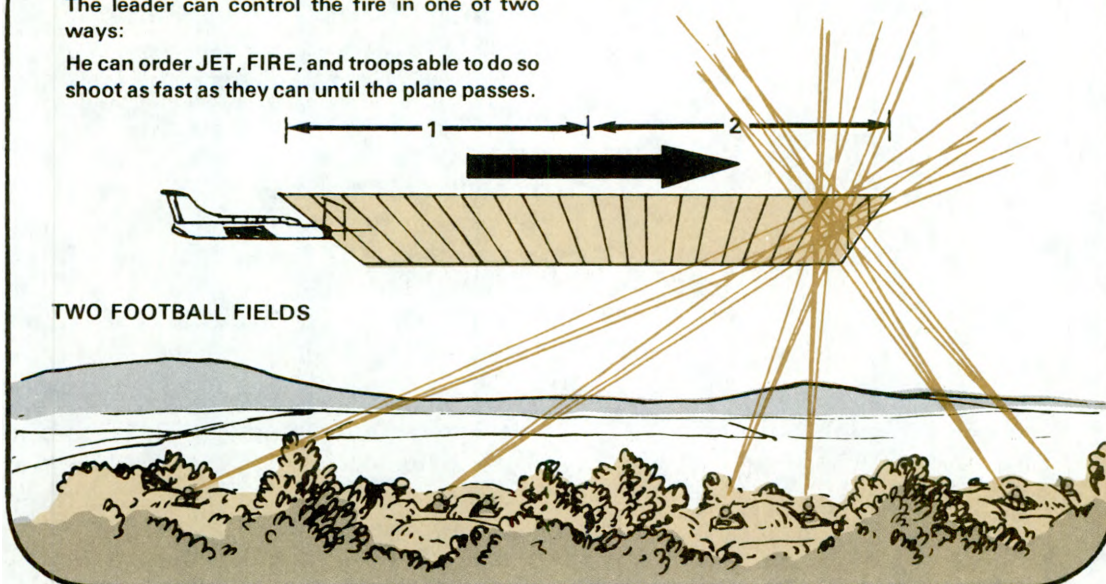




### LEADER CONTROLS FIRE

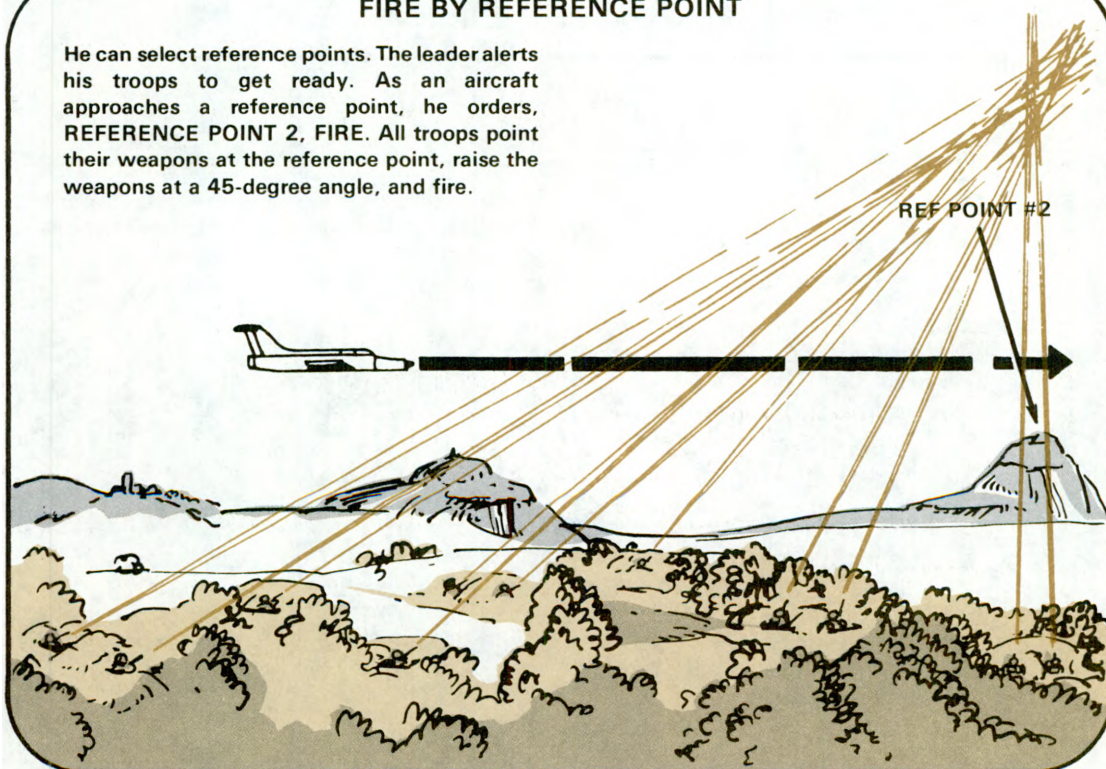
The leader can control the fire in one of two ways:

He can order JET, FIRE, and troops able to do so shoot as fast as they can until the plane passes.



### FIRE BY REFERENCE POINT

He can select reference points. The leader alerts his troops to get ready. As an aircraft approaches a reference point, he orders, REFERENCE POINT 2, FIRE. All troops point their weapons at the reference point, raise the weapons at a 45-degree angle, and fire.



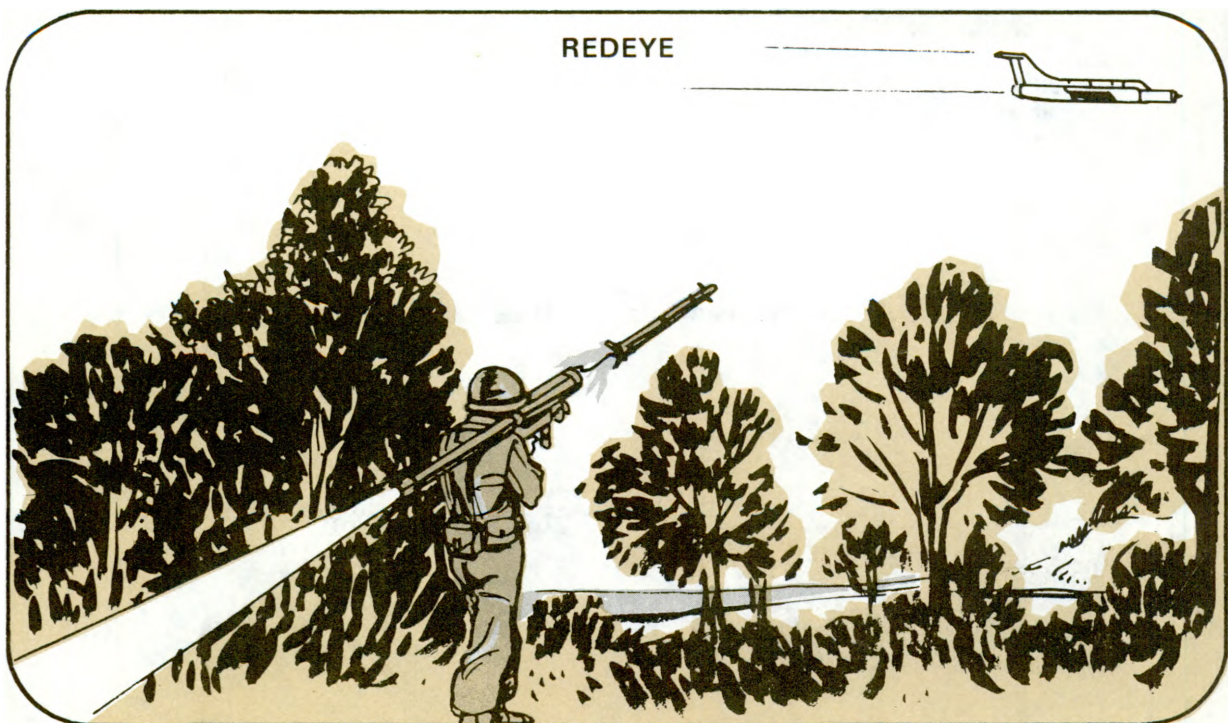
## AIR DEFENSE SUPPORT

An infantry battalion gets air defense support from its own Redeye teams or from Vulcan platoons of the division's air defense battalion.

A battalion has five Redeye teams of two men each. Each team carries six missiles. A Redeye team may move, or be positioned, with a platoon. As it has an easily seen firing signature, the Redeye should not be positioned where aircraft firing at it will hit the platoon. The Redeye gunner should move after each firing.

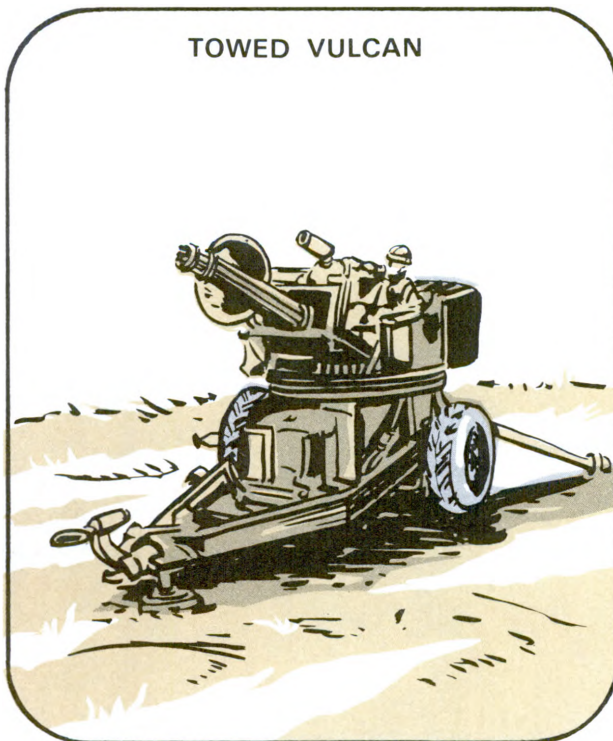
The Redeye has a range of 3,000 meters with a backblast area of 13 meters forward of and behind the launcher. Troops must keep clear of backblast areas.

The Redeye team has a warning device (Target Alert Data Display Set, or TADDs) that gives advance notice of enemy aircraft in the area. When alerted by this device, the team can alert the platoon.





The Vulcan is an automatic weapon — a turret-mounted, six-barrel 20-mm cannon. It may be self-propelled or towed. Its range in the air defense role is 1,200 meters. In rare cases, Vulcans may also be used in the ground support role at ranges to 2,200 meters.



## CONTROL OF AIR DEFENSE WEAPONS

Fire of all air defense weapons is controlled by air defense rules of engagement. This includes **weapons control status** and **hostile criteria**.

**Weapons control status** is a way to vary the amount of control over air defense fire to provide for protection of friendly aircraft while still providing air defense. It may be —

- **weapons free** — weapons may fire at any aircraft not positively identified as friendly (**this is the least restrictive status**),

- **weapons tight** — weapons fire at aircraft positively identified as hostile, or

- **weapons hold** — weapons do not fire except in self-defense.

**Hostile criteria** are used to determine if an aircraft is hostile or not. Normally, those aircraft seen committing a hostile act may be declared hostile.

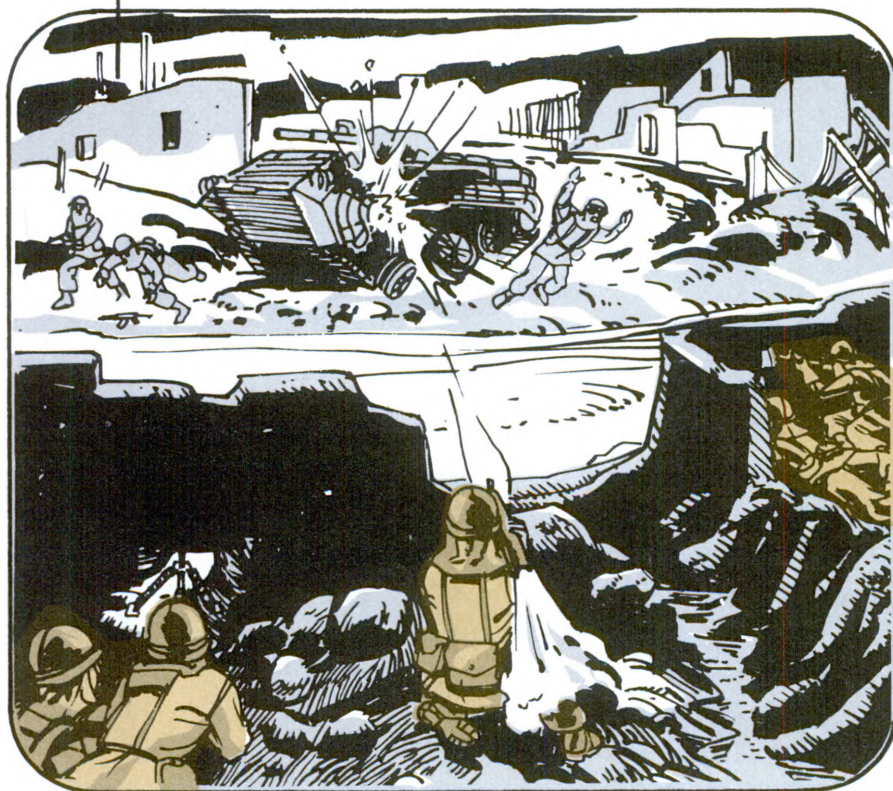




## APPENDIX I

**OPERATING IN A NUCLEAR,  
BIOLOGICAL, OR  
CHEMICAL ENVIRONMENT**

Nuclear, biological, and chemical (NBC) weapons can cause casualties, destroy or disable equipment, restrict the use of terrain, and disrupt operations. Infantrymen must be prepared to fight on an NBC-contaminated battlefield. This appendix prescribes active and passive protective measures to avoid or neutralize the effects of NBC weapons.



## A NUCLEAR ENVIRONMENT

Nuclear detonations have **four main effects**—

**1. BLAST** — an intense shock wave.

**2. THERMAL RADIATION** — heat and light.

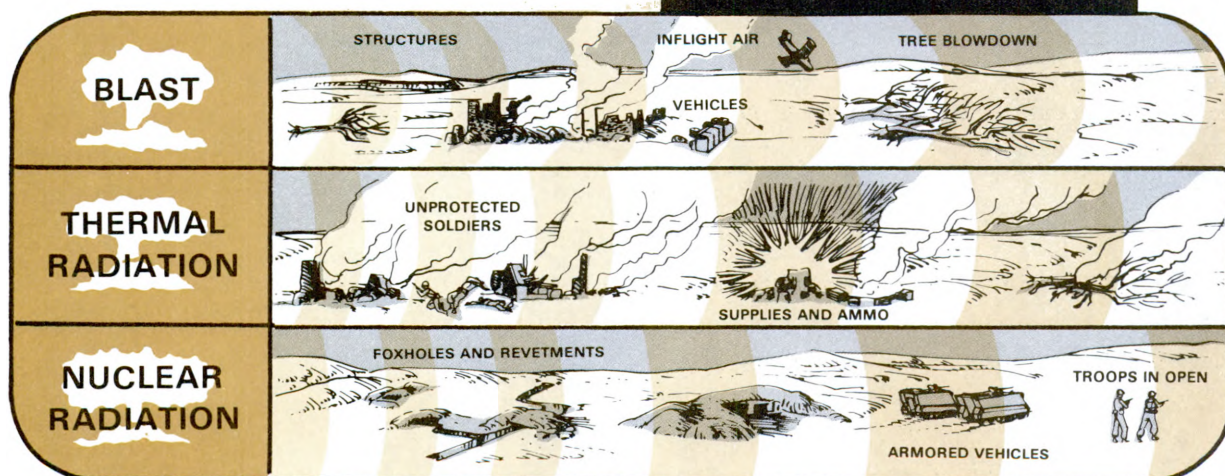
**3. NUCLEAR RADIATION** — consisting of:

■ **Initial** radiation emitted directly from the fireball in the first minute after the explosion. It travels at the speed of light along straight lines and has a high penetrating power.

■ **Residual** radiation which lingers after the first minute. It comes from the radioactive material originally in a nuclear weapon or from material (such as soil and equipment) made radioactive by the nuclear explosion.

**4. ELECTROMAGNETIC PULSE (EMP)** — intense high frequency radiation similar to very strong radio or magnetic waves.

The casualty-producing effects are blast, thermal radiation, and nuclear radiation.





**Effects on Troops.** Blast produces an intense shock wave and high winds, which create flying debris. It may collapse shelters and some fighting positions.

Thermal radiation causes burns and starts fires. The bright flash at the time of explosion can cause a temporary loss of vision or permanent eye damage to men who look at the explosion.

Nuclear radiation can cause casualties and delay movements. It may last for days and cover many square kilometers. The exposure of the human body to nuclear radiation causes damage to the cells which are the basic components of all parts of the body. This damage is the cause of what is generally called "radiation sickness," the severity of which depends on the radiation dose received. The early symptoms of radiation sickness usually appear from 1 to 6 hours after a person is exposed. These symptoms may include headache, nausea, vomiting, and diarrhea. Those early symptoms may be followed by a latent period during which the symptoms disappear. There are no first aid measures which will help a person who has been exposed to nuclear radiation other than making him comfortable.

**"RADIATION SICKNESS," THE SEVERITY OF WHICH DEPENDS ON THE RADIATION DOSE RECEIVED.**

If the radiation dose was small, the symptoms, if any, will probably go away and not recur. If the symptoms continue or recur after a latent period, the casualty should be sent to an aid station.

**Effects on Equipment and Supplies.** Blast can crush sealed or partly sealed objects like food cans, barrels, fuel tanks, and helicopters. Rubble from buildings being knocked down can bury supplies and equipment.

Nuclear radiation can contaminate food and water.

Heat can ignite dry wood, fuel, tarps, and other flammable material.

Electromagnetic pulse can damage radios and other electronic equipment.

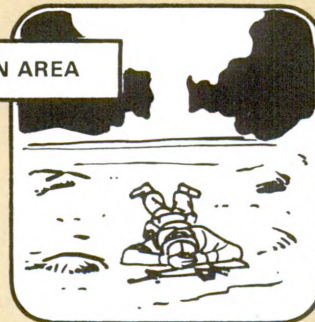
**Protective Measures Against Nuclear Weapons' Effects.** A soldier's best protection against nuclear attack is to take cover in a fighting position, culvert, or ditch, or behind a hill. If caught in the open away from nearby cover, he should drop flat on the ground at once and close his eyes. He should

cover as much exposed skin as he can to avoid burns. If the direction of the attack is known, he should drop with his head away from the direction of the burst. He should stay down until the blast wave passes, then check for injuries and equipment damage and prepare to continue the mission.

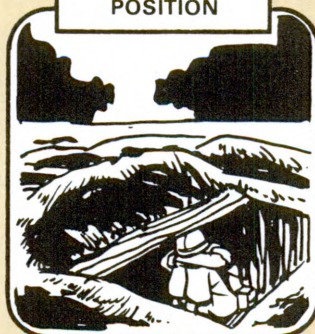
#### PROTECTIVE MEASURES FOR DISMOUNTED SOLDIERS



CULVERT



OPEN AREA

COVERED  
FIGHTING  
POSITION

HILL



DITCH

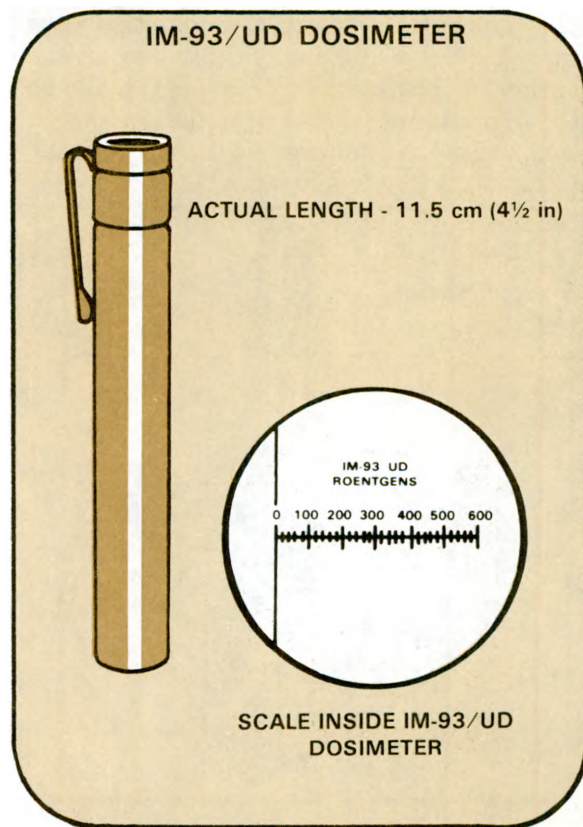


Radiation is the only direct nuclear effect that remains after the explosion. As it cannot be detected by the senses, radiac equipment must be used to detect its presence. Procedures for radiological monitoring, surveying, and reporting must be prescribed in unit SOPs. Guidance can be found in FM 3-12 and FM 21-40. If residual radiation has been detected, a platoon continues its mission and monitors the amount of radiation it is receiving. It reports the amount of radiation received and the times and places of the readings to the company. If feasible, the platoon relocates to reduce its exposure to radiation.

If the unit must stay in a fallout area, everyone should stay in dug-in positions with overhead cover. When time does not permit a well prepared overhead cover, a poncho should be used. Once the fallout has passed, radioactive dust must be brushed off of overhead cover. Men should avoid spending time away from cover. All troops and equipment should be washed as soon as the mission permits. As a minimum, soldiers should shake or brush off the dust on their uniforms and equipment and wash the dust off their hair. The time a unit may stay in a contaminated area depends on the total doses of radiation to which its men are exposed, the intensity of radiation, and the protection available. Each platoon should maintain a record of its total dose received and report this to the company per SOP.

## MONITORING RADIATION LEVELS

Soldiers use the IM-93/UD dosimeter to measure the amount of radiation (**measured in rads**) to which they have been exposed. It is the size of a penlight and is easy to operate. Two of these instruments are usually issued per platoon with two spares in the company headquarters. One PP-1578/PD charger will be issued for every two dosimeters. This device is used to recharge and zero the dosimeters.

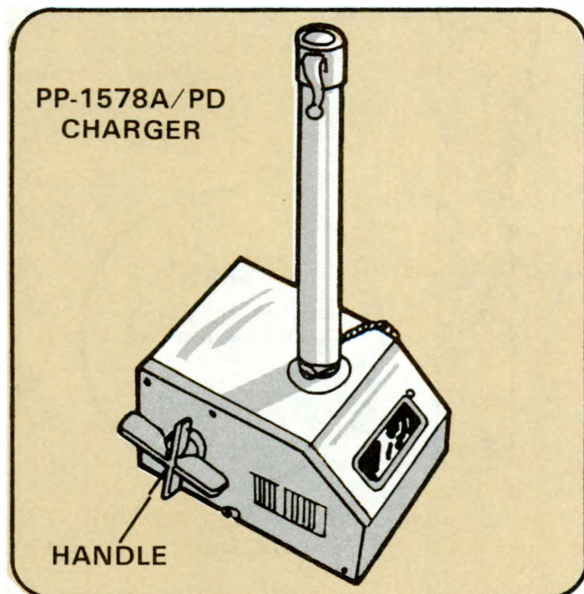


**NOTE:** For military purposes, one roentgen equals one rad. The radiation received by a man is measured and expressed in rads.

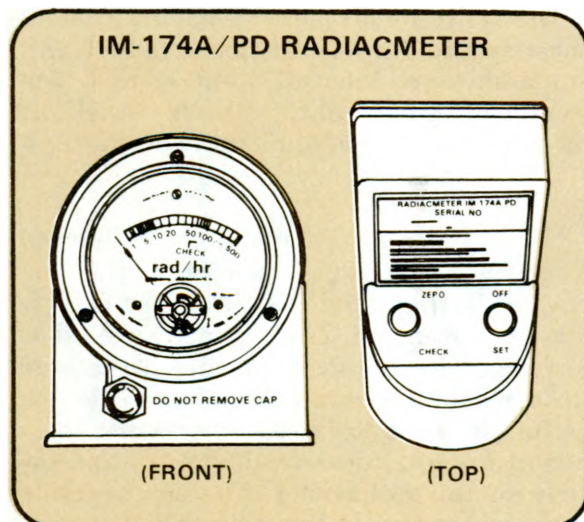
The dosimeter is read by removing the dust cover and holding the dosimeter to the light. At night, an external light source (for example, flashlight, vehicle blackout markers) is needed to read the dosimeter.

The dust cover should not be removed except when taking a reading. If the dust cover is lost, a piece of tape can be used to close the open end. The dosimeter should be recharged every day, or sooner if the total dose reaches or exceeds 500 rads. Before recharging the dosimeter, the soldier must record the total dose reading on it and the time of the recharging. The frequency of rechargings should be set by SOP.

To charge the dosimeter, the dust cover is removed and the dosimeter is placed on the charger. A flashlight or other light should be used to illuminate the scale on the dosimeter. The handle on the charger is turned until the indicator on the dosimeter is set at zero.



The standard ion-chamber radiacmeter (IM-174 A/PD) is used for area monitoring and surveying. It is a high-range dose-rate instrument which will measure gamma radiation readings from 0 to 500 rad/hr. One is issued to each platoon.



Each instrument should have two operators (primary and alternate). These soldiers must be trained in its use and maintenance and in the techniques of radiological monitoring and surveying. They are members of the company NBC defense team.

Radiological monitoring starts on order of the commander or in accordance with the SOP. Members of the NBC defense team mark the area with radiological contamination markers. Radiation dose-rates and time and location of readings are reported to higher headquarters.

Monitoring may be **periodic** or **continuous**.

During **periodic monitoring**, a company routinely monitors a set point in its area at least once each hour. The NBC defense annex of the SOP should prescribe the procedures for this.

All units start **continuous monitoring** when they get a fallout warning; when on any type move; when a nuclear burst is reported, seen, or heard; when radiation of 1 rad/hr is detected by periodic monitoring; and when ordered by the commander. Continuous monitoring stops on order from higher headquarters or when the dose-rate falls below 1 rad/hr (except for units on the move).

## A CHEMICAL OR BIOLOGICAL ENVIRONMENT

It is the policy of the United States to refrain from using chemical agents first in war. They may be used if an enemy employs them against the United States. Only the President can authorize their use. The United States will not use biological weapons under any circumstances, but will train for defense against such agents.



Enemy forces have both chemical and biological (CB) weapons, so infantry units may have to fight in active CB conditions. The CB weapons may be used separately, simultaneously, or with nuclear weapons. Regardless of their use, units must be able to survive and continue their combat mission. To insure this, troops must be trained to meet the NBC standards of proficiency prescribed in FM 21-40 and FM 21-41.

### Characteristics of CB Agents

■ **Chemical agents** are similar to poisonous pesticides, but are far more powerful compounds meant to kill or injure people. They are released to cover large areas. They may be placed on a target as a gas, liquid, or aerosol. A mixture of agents can be used to cause confusion and casualties. Artillery, mortars, rockets, missiles, aircraft spray, bombs, and landmines can deliver the agents.

■ **Biological agents** are disease-producing germs. The use of germs creates a disease hazard where none exists naturally. These agents may be dispersed as aerosols by generators, explosives, bomblets, missiles, and aircraft. Harmful germs may also be spread by the release of insects such as flies, mosquitos, fleas, and ticks.

### Effects of CB Agents

■ **On Troops.** CB agents may enter the body through the eyes, nose, mouth, or skin. They can injure or kill.

Liquid agents may be dispersed on equipment, terrain, and foliage. The agent may stay for hours or days, and be a serious hazard to unprotected troops.

■ **On Equipment.** CB agents have little direct effect on equipment. Liquid chemical contamination on equipment can restrict the equipment's use until it is decontaminated. The primary responsibility for decontamination rest with the unit itself. Commanders and leaders should be familiar with the techniques and levels of responsibility for decontamination operations as outlined in TM 3-220. Each unit should have a specially trained decontamination team (FM 21-40, chap 2).

■ **On Terrain.** Liquid chemical agents may restrict use of terrain and buildings.

Infantry troops cannot decontaminate terrain, but this is usually done naturally by the weather. Contaminated areas may be either bypassed or crossed when protective equipment is worn. Soldiers and equipment must be decontaminated as soon as the situation permits.

## DETECTION OF CB AGENTS

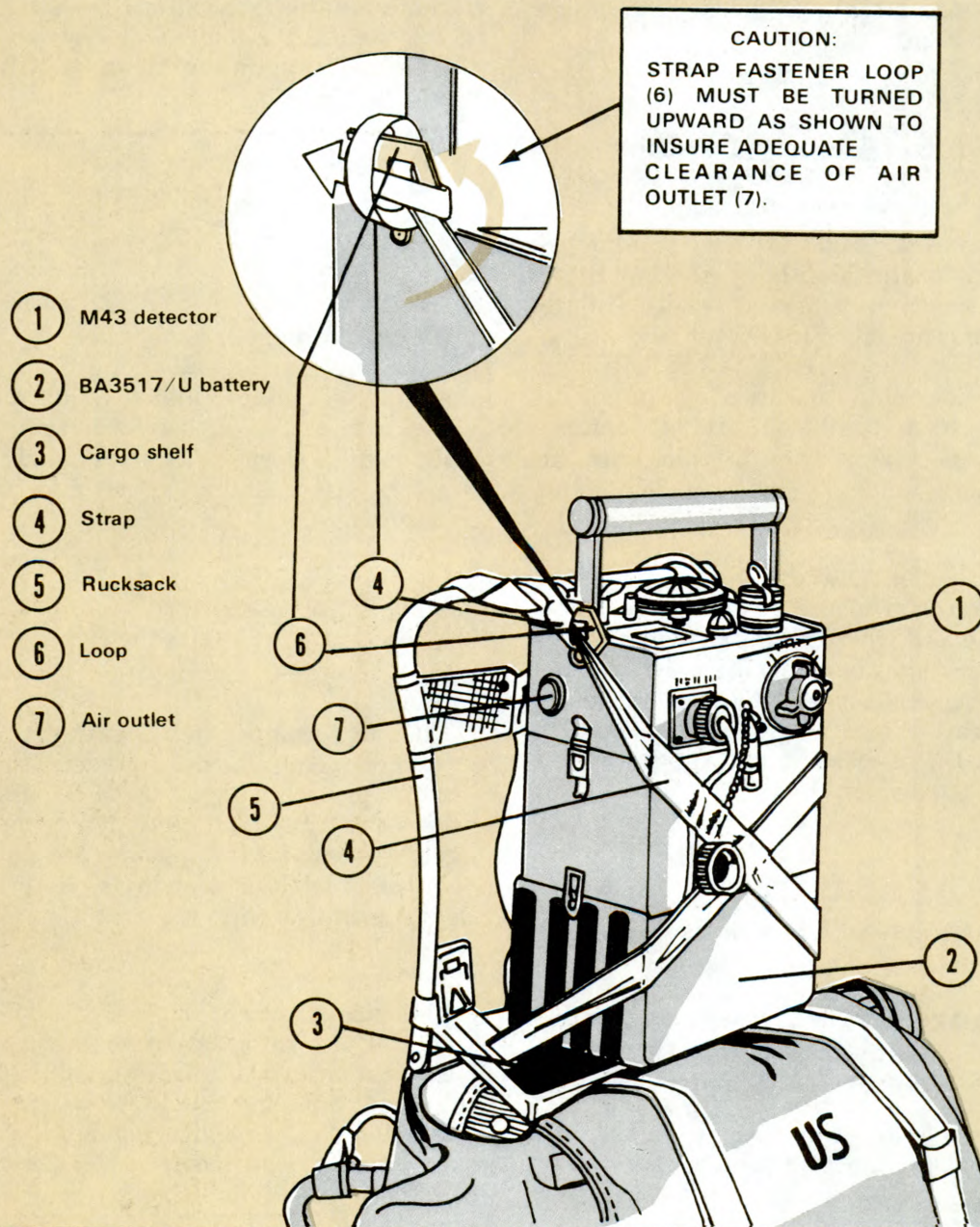
Chemical agents can be detected by using chemical-agent alarms and detection kits organic to each company (FM 21-40). The senses may not be able to detect chemical agents because most agents are odorless, colorless, tasteless, and invisible in battle-field concentrations.

Biological agents are hard to detect in early stages of use. Information on enemy use of biological agents is disseminated through channels. Soldiers should be alert to any indication that biological agents are being used. Any unusual occurrence of sickness in troops or civilians should be reported promptly.

The M8 manpacked, automatic chemical agent alarm is capable of detecting the presence of chemical agents in the air and producing an audible or visual signal (TM 3-6665-225-12). The M8 will detect nerve,

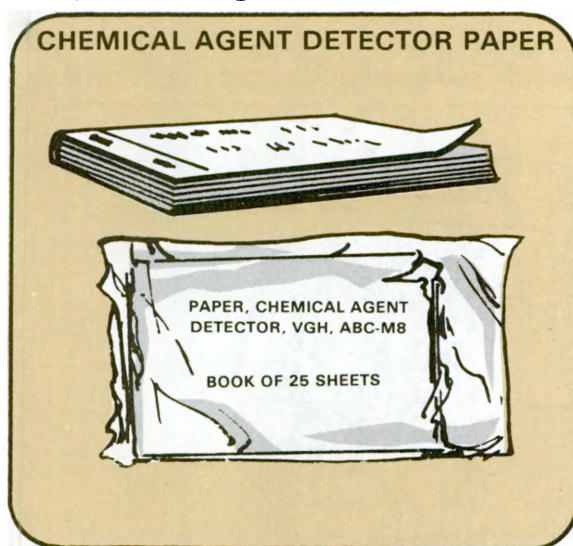
blood, and choking agents. The use and maintenance of the M8 is the responsibility of designated members of the company NBC defense team. The techniques of using this alarm are explained in TC 3-3.

### M8 MANPACKED AUTOMATIC CHEMICAL-AGENT ALARM





**ABC-M8 chemical-agent detector paper** comes in a booklet of 25 sheets which is a part of the M256 chemical-agent detector kit. The paper sheets are treated with chemicals that turn dark green, yellow, or red when in contact with V-type or G-type nerve agents or blister (**mustard**) agents, respectively, in liquid form. This paper must touch the liquid agent to be sure of a positive test; it does not detect vapor. It is best suited for use on nonporous material such as metal. The test is not always reliable on porous material such as wood or rubber, which absorbs the liquid agent. As many substances can cause a color change in this paper (**including some solvents and decontaminants**), it is only reliable as an indicator of the possible presence of a chemical agent. Positive detector paper tests must always be verified using chemical-agent detector kits.



The **M256 chemical agent detector kit** is issued to squads. It can detect dangerous vapor concentrations of all known nerve, blister, and blood agents. It can also detect residual surface contamination. Operating instructions are contained in the kit. The kit is used when the unit is under chemical attack, when a chemical attack is reported to be imminent, or when the presence of chemical agents is suspected. See TM 3-6665-307-10 for further information on this kit.



## CB ALARMS

Anyone recognizing a germ or gas attack must **STOP BREATHING, PUT HIS MASK ON, CLEAR AND CHECK IT, AND GIVE THE ALARM OR SIGNAL** as set by the unit SOP.

**Example of a soldier giving the alarm:** A soldier extending both arms straight out sideways with fists doubled facing up, and quickly moving the fists to the head and back to the starting position as many times as needed to alert his buddies.



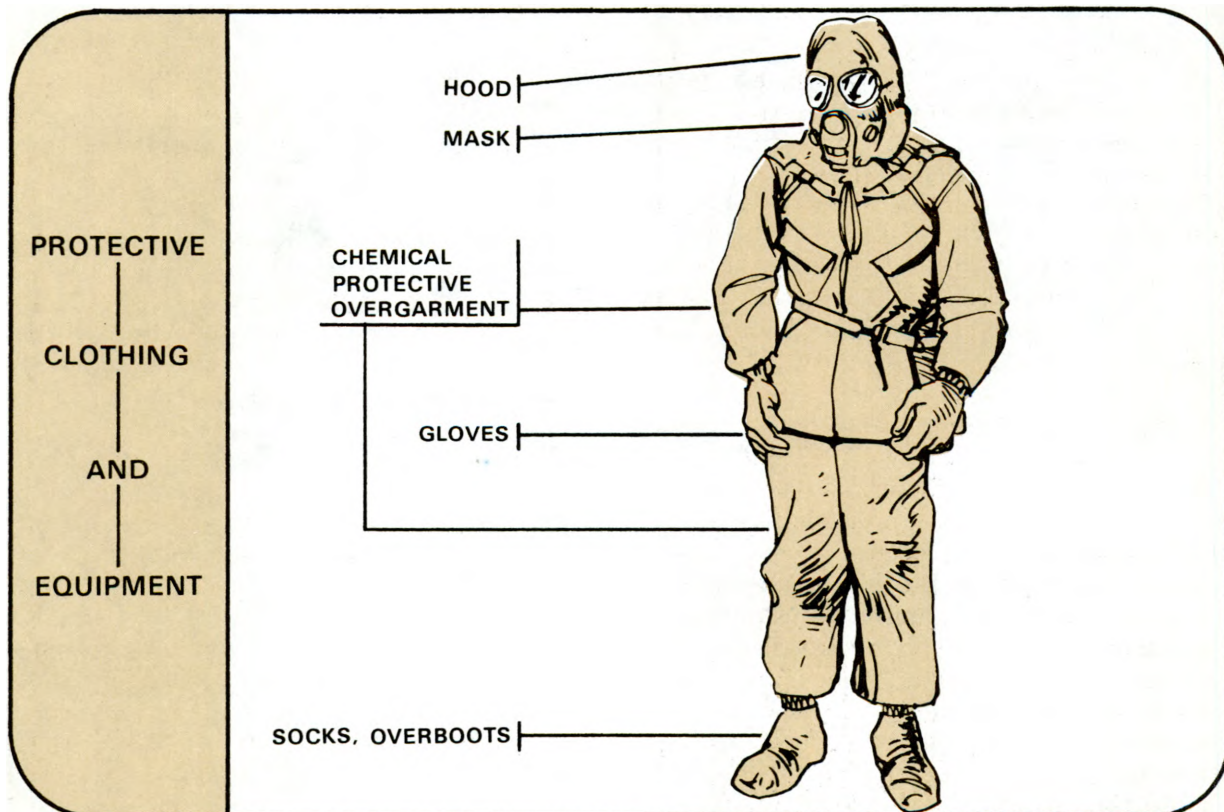
## PROTECTION AGAINST CB ATTACK

Squads and platoons must train to apply protective measures against CB attacks. Protective measures include: a warning system; equipment for decontamination of men, equipment, and supplies; and the means for prompt treatment of casualties.

**Protective Equipment.** Each man's main protection against CB attack is his protective mask. It keeps him from inhaling chemical or biological agents. For further protection against liquid chemical agents, he wears chemical protective clothing as well as the mask and hood — chemical-protective overgarments, chemical-protective socks, and boots, chemical-protective socks, and chemical-protective gloves. If chemical-protective overboots are not available, combat boots may be treated with M2 leather vesicant dressing (FM 21-40).

**Mission-Oriented Protective Posture.** Once chemical agents have been employed or while the threat of enemy chemical attack exists, the company commander decides whether to keep all troops, or only a certain number, masked and in chemical-protective clothing. This is called the **mission-oriented protective posture (MOPP)**. When feasible, the commander specifies the degree of protection before the mission. Later, he may direct that the protection be modified according to the situation.

The MOPP level directed by the company commander will determine what equipment must be worn/used and what precautionary measures must be applied. MOPP procedures should be stated in the company's SOP.





It is essential that all commanders and leaders be familiar with MOPP concepts. See chapter 5, FM 21-40, for a detailed discussion on MOPP and the use of MOPP tables.

The following chart shows the requirements for protective clothing/equipment for different MOPP levels.

# MOPP

MOPP	PROTECTIVE EQUIPMENT			
	OVERGARMENT	OVERBOOTS	MASK/HOOD	GLOVES
1	Worn, opened or closed based on temperature	Carried	Carried	Carried
2	Same as MOPP 1	Worn	Carried	Carried
3	Same as MOPP 1	Worn	Worn, hood opened or closed based on temperature	Carried
4	Worn, closed	Worn	Worn	Worn

**Biological Attack.** Information on the use of biological agents by the enemy is disseminated by higher headquarters. Each leader must be alert to the danger and report promptly an unusual occurrence of sickness. The best local defense against biological warfare is strict enforcement of all preventive medical and sanitation measures and high standards of hygiene. The most probable time for a biological attack is at night.

The duty uniform and gloves protect against bites from insects such as mosquitoes and ticks that may carry disease-causing germs. Clothing is kept buttoned, and trouser legs are tucked into the boots. Covering the skin reduces the possibility of the agent entering the body through cuts and scratches and also keeps disease-carrying insects from reaching the skin. Insect repellents and insecticides are effective against most disease-carrying insects. High standards of sanitation also improve the protection against some insects.

The duty uniform and gloves may not be enough protection against some biological agents. In such cases, the chemical protective clothing and protective mask must be worn.

**Chemical Attack.** First aid includes the immediate actions required to prevent further injury or complications from the effects of chemical agents. Therefore, first aid must include individual decontamination, when it is required. **Symptoms and first aid steps for chemical agents are:**

■ **Nerve agents.** The symptoms of nerve-agent poisoning are difficulty in breathing, drooling, nausea, vomiting, convulsions, and sometimes dim vision. The injection of nerve-agent antidote and the giving of artificial respiration or resuscitation are the first aid measures for soldiers showing symptoms of nerve-agent poisoning. A soldier gives himself two injections of the nerve-agent antidote when he experiences these symptoms. There is no delay between injections.

■ **Blister agents.** The symptoms of blister-agent poisoning are the burning in the skin, eyes, and nose. These symptoms may be delayed for several hours or days, depending on the type agent used. There is no first aid for blister-agent poisoning other than decontamination. If burns or blisters develop after decontamination, soldiers cover the area with sterile gauze or a clean cloth to prevent infection.

■ **Blood agents.** The symptoms of blood-agent poisoning are convulsions and coma. The first aid for blood-agent poisoning is to put two crushed ampules of amyl nitrite close to the affected soldier's nose. If the affected soldier is still in a contaminated area, the crushed ampules are inserted inside his protective mask. If symptoms persist, this treatment is repeated about every 4 or 5 minutes until normal breathing has returned or until a total of eight ampules have been used. Artificial respiration may be given if breathing becomes difficult or stops.

■ **Choking agents.** The symptoms of choking-agent poisoning are coughing, choking, nausea, and headache. The first aid for choking-agent poisoning is to keep the affected soldier still, warm, and comfortable. He should not be moved unless necessary.

## CHEMICAL-AGENT DECONTAMINATION OF SOLDIER AND HIS EQUIPMENT

A soldier has both an M13 individual decontaminating and reimpregnating kit and an M258 skin decontaminating kit. The M13 kit is carried in the protective mask carrier. There is no specific place to carry the M258 kit.

The M13 kit is used by a soldier for decontaminating his clothing, individual weapon, and equipment. The M258 kit is used to decontaminate the skin.

**Decontamination with the M13 kit.** General instructions for the use of the M13 kit are printed on the container; however, these instructions have been altered as discussed below because of the introduction of the M258 kit, which is specially designed for skin decontamination.

■ The container for the M13 kit is a plastic can equipped with a plastic pull-handle slip-on lid. It contains the following items:

A small decontaminating pad (skin pad) filled with "Fuller's earth" powder.

Two cloth bags filled with a decontaminating and reimpregnating compound (XXCC3). Each bag contains a capsule of B1 chemical agent detector dye.

A single-edge cutter.

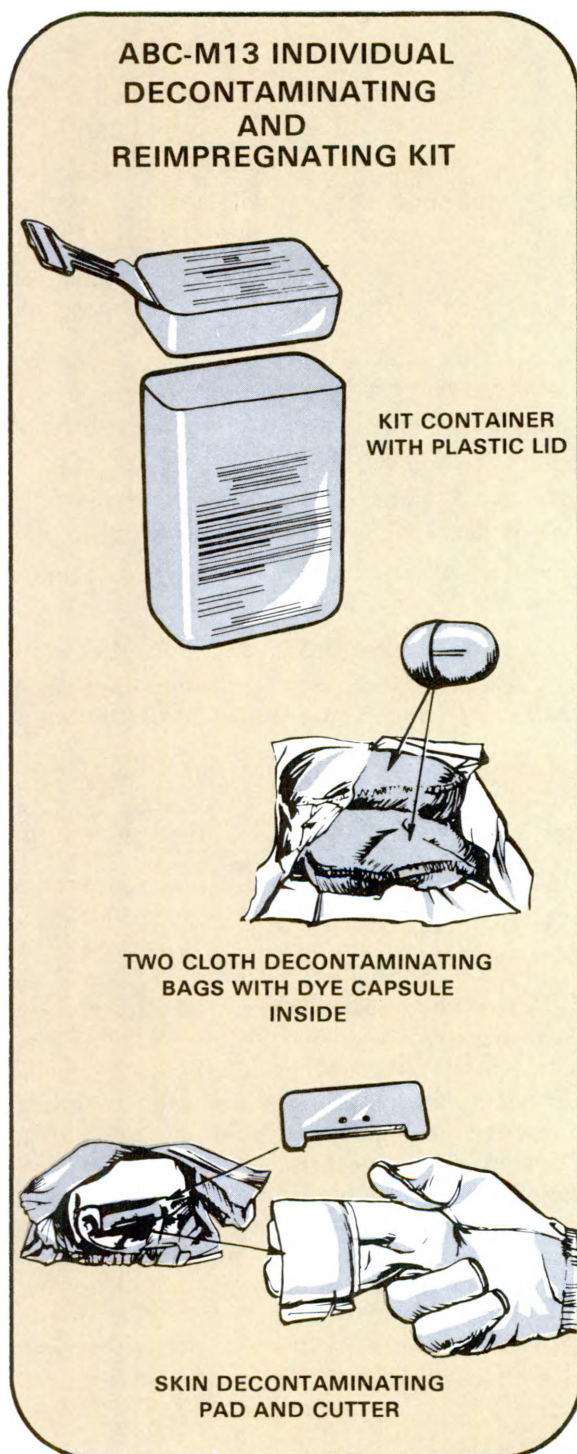
■ With this kit, a soldier can detect liquid chemical-agent contamination and decontaminate his clothing and equipment.

■ The small skin pad is used to decontaminate the inside of the protective mask facepiece. The pad will slip over two fingers so that one side can be used to blot the agent from the inside of the facepiece and the other side to dust and rub over the contamination. This action only absorbs small amounts of liquid agent and, therefore, a mask which has heavy contamination inside should not be used. This problem should not occur if the mask is kept in a closed carrier until needed.

■ The cloth bags are used to detect chemical contamination. When the dye capsule inside the bag is crushed and kneaded into the compound and the bag is subsequently rubbed over clothing and equipment, the presence of nerve and blister agent contamination is disclosed by red or brown color changes on the contaminated spots. Decontamination and reimpregnation is accomplished by further rubbing with the cloth bag to eliminate the smear hazard of liquid contamination. This will not eliminate the vapor hazard.



■ The single-edge cutter is used to cut out spots of heavy contamination on clothing.



**Decontamination with the M258 kit.** The external appearance of the M258 kit is similar to that of the M13 kit. The only differences are the instructions and the web strap and snap clip on the M258 for attaching it to the mask carrier or pack harness. Inside the lid of the M258 is a metal spike which is used for puncturing the decontamination solution containers. The plastic can contains four gauze pads, two scraping sticks, and two plastic capsules containing the decontaminating solution. Details on this kit are in TM 3-4230-213-10. Its parts are used as follows:

■ Use a gauze pad to soak up a liquid agent from the surface of the skin. After using a pad, bury it under several inches of dirt or burn it.

■ If the contamination is a thick liquid which a pad will not absorb, scrape the agent off the skin using one of the scraping sticks. After using a stick, bury it under several inches of dirt or burn it.

■ Using the spike in the the kit's cover, punch a hole in the round capsule (solution #1). Wet a gauze pad with the solution and wipe the area of contaminated skin with the wet pad. After using the pad, bury it under several inches of dirt or burn it.

■ The square plastic capsule (solution #2) has a glass vial inside. Break the glass vial inside the capsule by striking the capsule against a hard object. After the vial is broken, shake the capsule vigorously to mix the contents. Puncture the capsule using the spike, and wet another piece of gauze with the solution. Again wipe the contaminated skin area thoroughly with this pad, and then bury it under several inches of dirt or burn it.



**Decontaminating the eyes or face.** If a soldier's eyes or face have been contaminated (for example, from a spray attack), he must first seek overhead cover and then take these steps:

#### DECONTAMINATING THE EYES



- (1) Flush his eyes with water from his canteen.
- (2) Decontaminate his skin by using the M258 decontaminating kit.

### CHEMICAL-AGENT DECONTAMINATION OF UNIT EQUIPMENT

**Key weapons** are decontaminated by using DS-2, soapy water, solvents, or slurry. Decontaminate ammunition with DS-2 solution, wipe with gasoline-soaked rags, and then dry. If DS-2 is not available, wash

ammunition in cool, soapy water, then dry it thoroughly. After decontamination, disassemble weapons and wash, rinse, and oil them to prevent corrosion.

**Optical instruments** are decontaminated by blotting with rags, wiping with lens cleansing solvent, and then letting them dry.

**Communications equipment** is decontaminated by wiping the agent off with rags and then airing and weathering the equipment. The M13 kit may also be used.

### BIOLOGICAL-AGENT DECONTAMINATION

**Troops** can decontaminate themselves by showering with soap and hot water. Germicidal soaps are used, if available. The nails should be thoroughly cleaned and the hairy parts of the body should be scrubbed. Contaminated clothing is washed in hot, soapy water if it cannot be sent to a field laundry for decontamination. Cotton items may be boiled.

**Vehicles** are washed with soapy water (preferably hot). If possible, they are steam-cleaned, using detergent.

**Equipment** is washed in hot soapy water and allowed to air out.



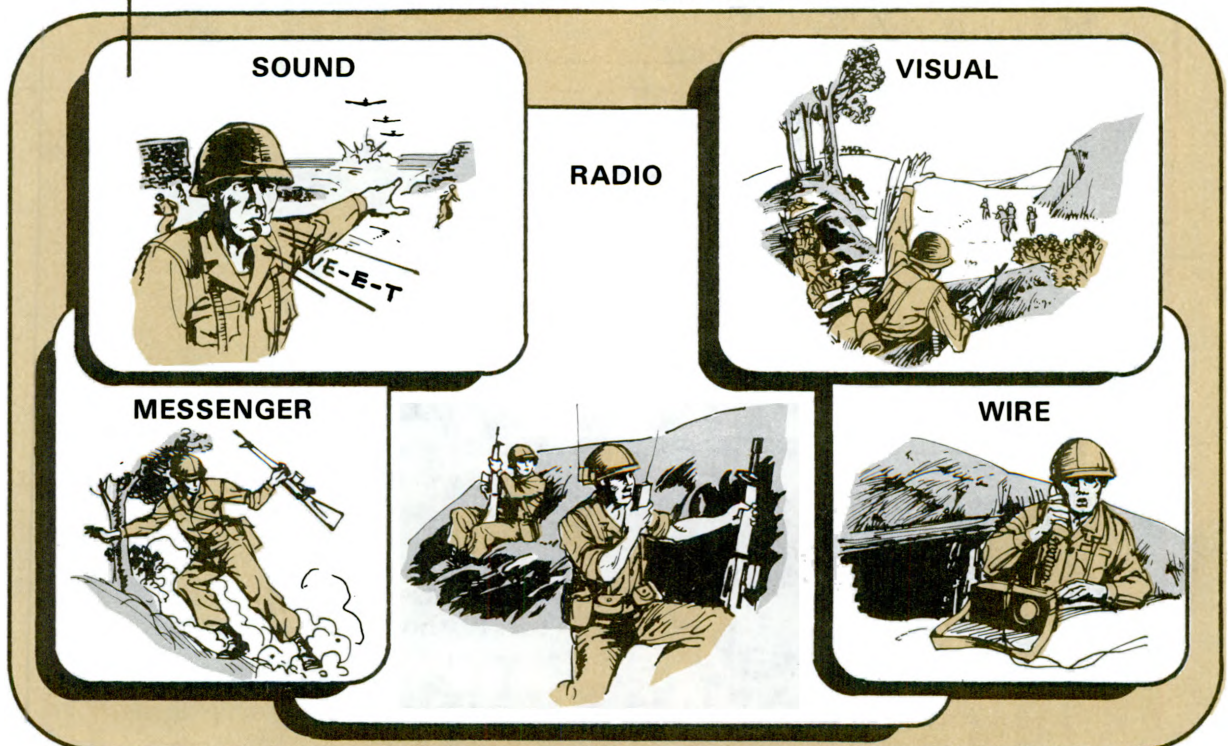
## APPENDIX J

## COMMUNICATIONS

Leaders use various means of communications to control troops, to gather and send out information, and to ask for support. A company will establish communications with its platoons — and platoons with their squads. Communications are every leader's responsibility. If communications are not established or are broken, both parties take action to establish or restore them.

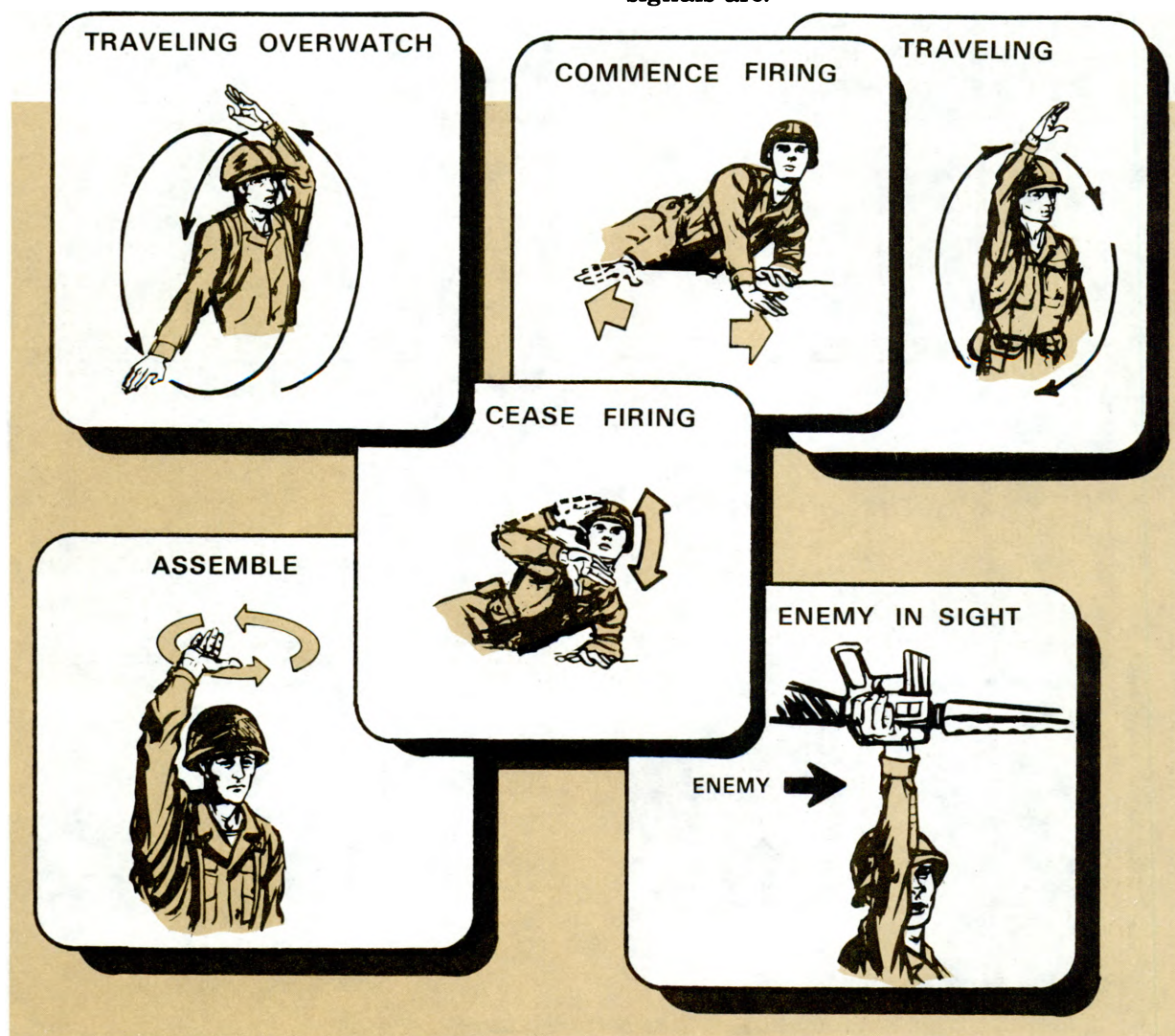
### TACTICAL COMMUNICATIONS MEANS

Each communications means has different capabilities. The means should complement one another. If at all possible, there should be a backup means of communicating. The common means available to squads and platoons are:



**Visual communications** are the most common means in the platoon. Arm-and-hand signals, flashlights, headlights, flares, smoke grenades, mirrors, and panels allow quick transmission of messages and instructions. A disadvantage is that they may be seen by the enemy. The chances of this are small if the unit uses the terrain for concealment. Every man in the unit should be able to send and receive visual signals.

■ **Arm-and-hand signals** are used within squads and platoons when visibility is good. Some frequently used arm-and-hand signals are:





■ **Pyrotechnic signals** can be used in most conditions of visibility. They are prescribed in the CEOI. Platoons should not establish their own pyrotechnic signals because they may confuse some other unit. The platoon should use only those in the CEOI. Messages transmitted by this means should be confirmed quickly by some other means as the originator cannot be sure that the signal was seen and understood. The disadvantage of pyrotechnic signals is that they can be easily seen and imitated by the enemy.

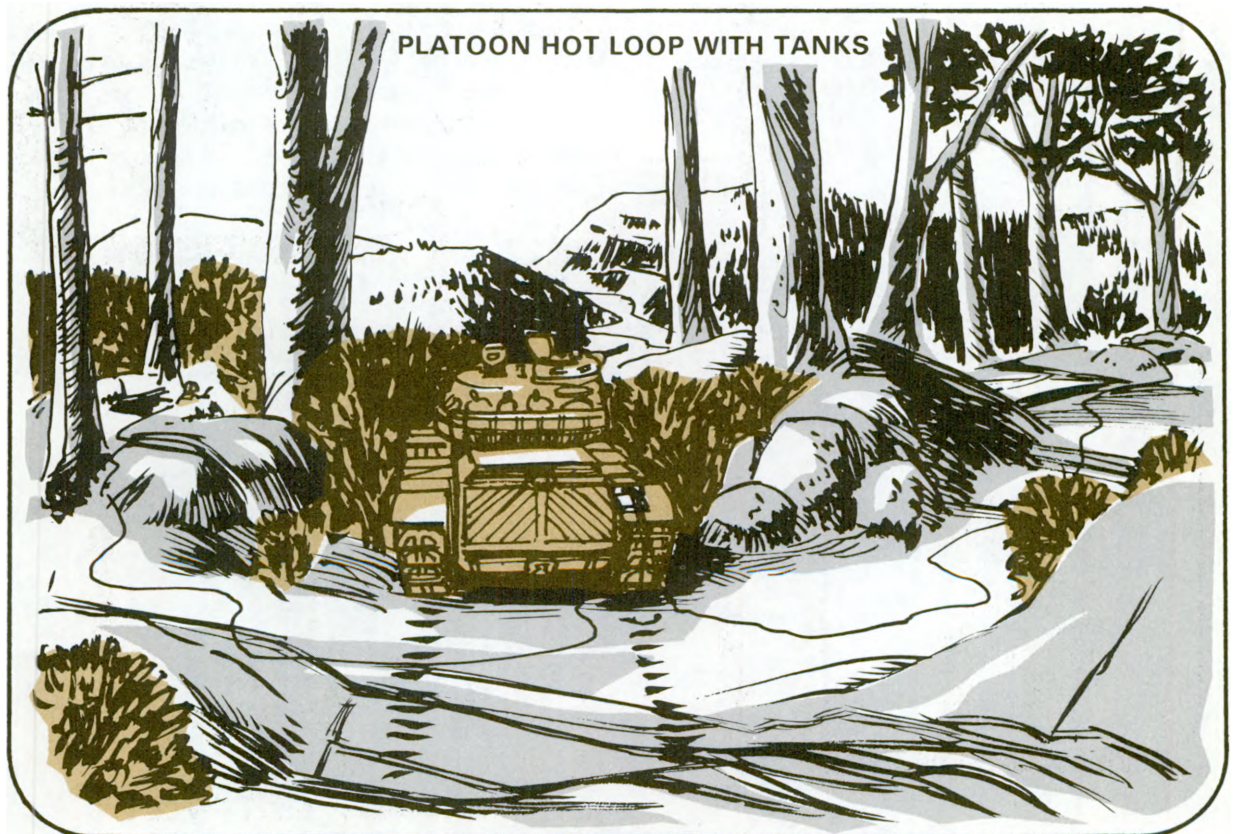
**Sound communications** include both voice and devices such as whistles, horns, gongs, and explosives. Sound signals are used to attract attention, transmit pre-arranged messages, or spread alarms. They are good only for short distances. Range and reliability are reduced by battle noise, weather, terrain, or vegetation. As they may

also be heard by the enemy, they may be restricted for security reasons. Sound signals must be simple to avoid misunderstandings. The means for sound signals are usually prescribed by the unit SOP and CEOI.

**Messengers** are the best way to send long messages and documents. However, they are the slowest means and are vulnerable to enemy action. When using a messenger, messages should be written. Their text must be clear, concise, and complete.

**Wire communications** are established in the platoon whenever feasible. A platoon "hot loop" is easy to install and easy to take down. Wire is more secure than radio, hard to jam, and allows conversation with break-in capability.

When the platoon is working with tanks, they are included in the hot loop.



## WIRE-LAYING TECHNIQUES

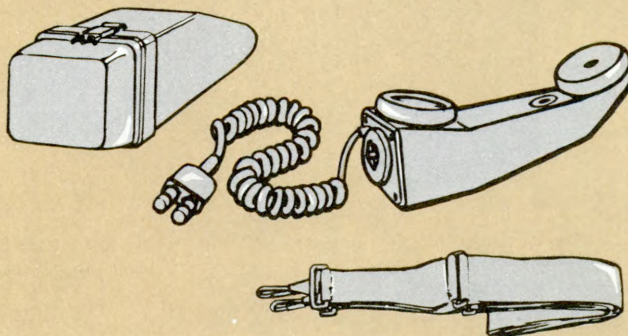
**Surface.** In combat, troops may lay field wire on the ground. They lay surface lines loosely with plenty of slack. Slack makes maintenance and installation easier. Surface lines need less time and fewer people to install. If possible, small trenches should be dug for field wire to protect it from shell fragments of incoming rounds. Wire routes crossing open areas should be concealed from enemy observation. The disadvantages are that communications by surface lines are less reliable in wet weather (**at splicing points**), and they are often broken by passing troops, vehicles, and fire. All lines should be tagged at switchboards and when crossing roads, trails, and rail crossings to identify the lines and make maintenance easier in the event a line is broken.

**Overhead.** Overhead lines are the least likely to be damaged by vehicles or impaired by weather. Troops lay overhead wire near command posts and assembly areas, along roads where traffic may drive off the road, and at road crossings where culverts or bridges are not available.

## WIRE EQUIPMENT

### TA-1

The Telephone TA-1 is a sound-powered phone that has both a visual and an audible signal. It weighs 1.6 kg (3.5 lb) and has a range of 10-16 km using WD-1 wire.

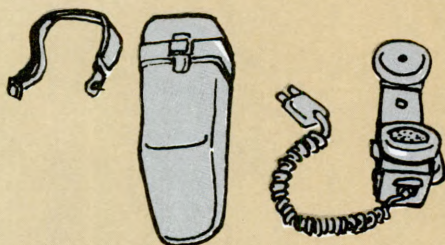




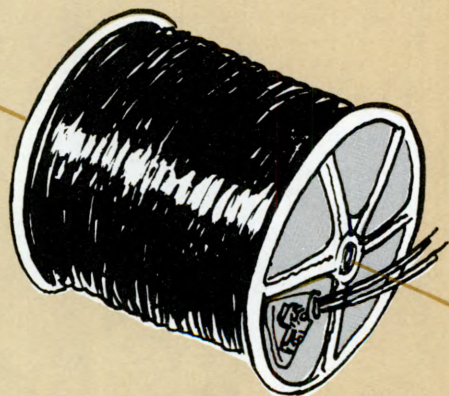
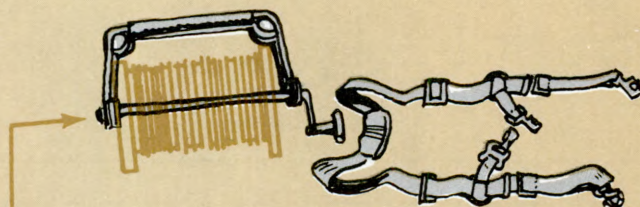
### REEL EQUIPMENT CE-11

The **Reel Equipment CE-11** is a light, portable unit for laying and picking up short wire lines. It has the following components:

- **Telephone Set TA-1.**



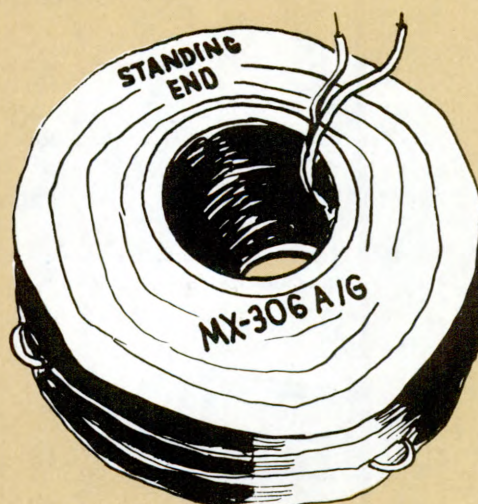
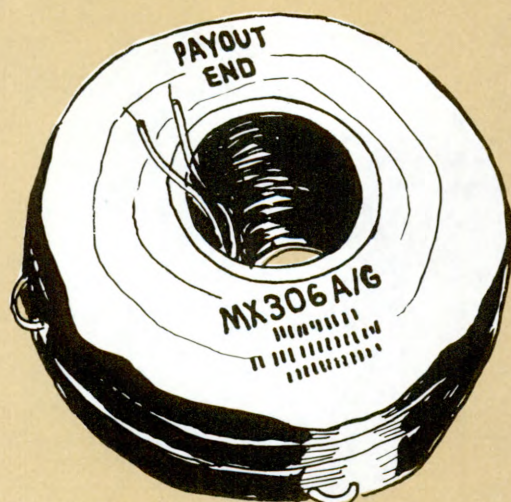
- **Reeling Machine Cable Hand RL-39** with an axle and crank, carrying handles and straps. It mounts the DR-8 reel cable (**below**) which is a separate item.



The DR-8 holds 400 meters of field wire (WD-1). The wire is reusable and should be taken up if the situation permits.

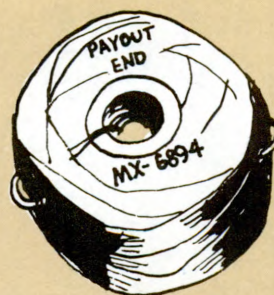
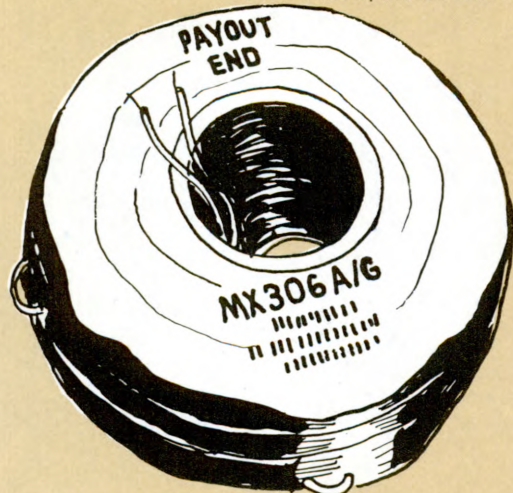
### WIRE DISPENSER MX-306

Wire Dispenser MX-306 contains 800 meters of field wire WD-1. It weighs 25-26 lb. The wire comes out from the center of the coil. The opposite end sticks out from the back side of the dispenser where a phone can be connected so that troops can communicate while laying the wire.



### COMPARISON OF MX-306A/G AND MX-6894

Wire Dispenser MX-6894 and MX-6895, "Combat Assault Roll," is used when fast installation and light weight are important. The wire is smaller and is not as strong as field wire WD-1. The 800-meter roll weighs 4 lb; the 400-meter roll weighs 2 lb. The figure shows the MX-6894 in comparison with the MX-306.



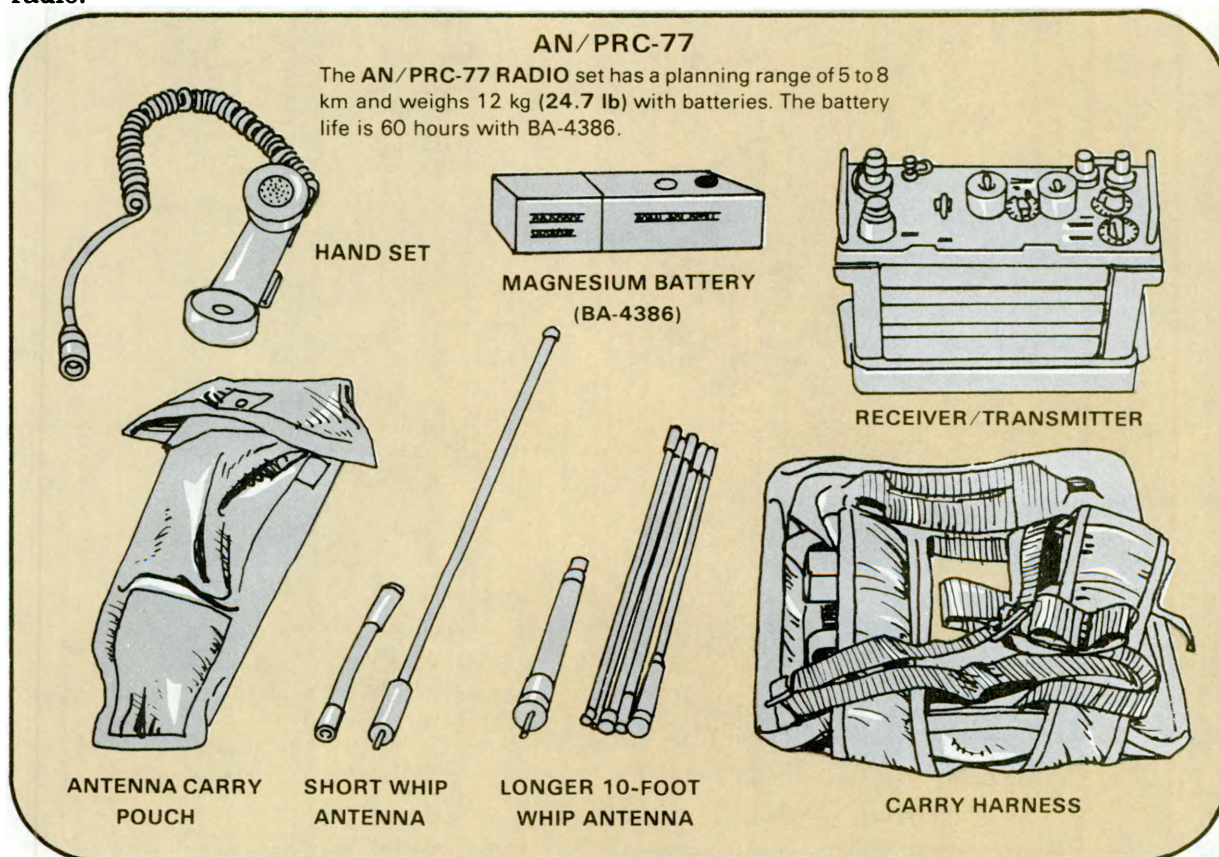


## RADIO EQUIPMENT

Leaders use **radios** within the platoon only when a message cannot be sent quickly by other means. The enemy can intercept radio messages. If he hears the transmission, he can figure out what the platoon is doing and where it is.

When in contact with the enemy, it may be necessary for a platoon leader to talk to his squad leader on the radio. Transmissions should be short and to the point.

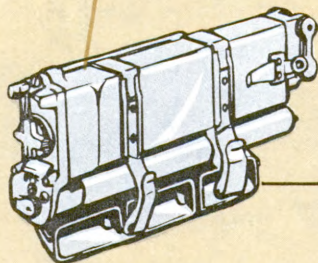
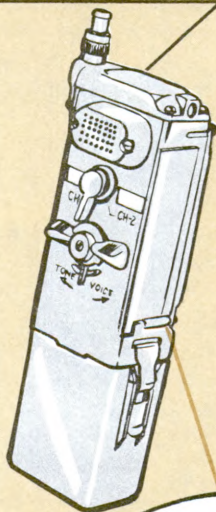
An infantry platoon headquarters has one AN/PRC-77 radio set and two squad radios — either the AN/PRC-68 or the other squad radio which comes in two parts (the AN/PRT-4 [transmitter] and the AN/PRR-9 [receiver]). Each squad has a squad radio.



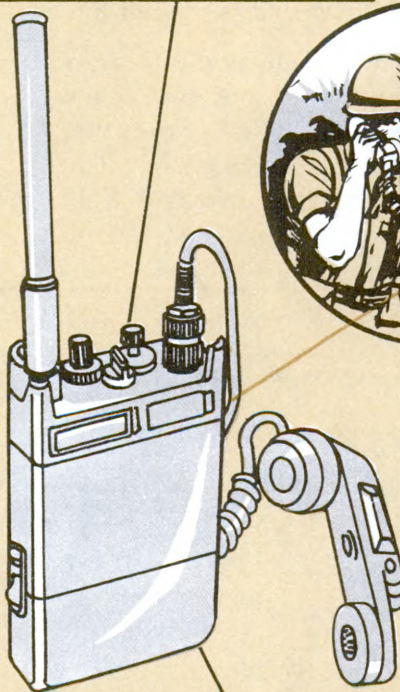


**AN/PRT-4**

The transmitter (**AN/PRT-4**) is battery-powered and has two channels. Channel 1 has a range of 1,600 meters. Channel 2 has a range of 500 meters. The AN/PRT-4 can transmit a tone as well as voice. Battery life is about 35 hours for the BA-399.

**AN/PRC-68**

The **AN/PRC-68 RADIO** (Small Unit Transceiver [SUT]) has a planning range of 1 to 3 km and weighs .99 kg (35 oz). It has 1000 channels and can be preset on 10 of them. Its battery's life is 24 hours.



The battalion communications platoon presets the channels.

**AN/PRR-9**

The receiver (**AN/PRR-9**) will receive Channel 1 and Channel 2, but not both at the same time. It is also battery-powered. Two types of batteries can be used in the receiver. The dry-cell battery (**BA-505U**) has a life of about 14 hours. The magnesium battery (**BA-4505/U**) has a life of about 28 hours.



## RADIOTELEPHONE PROCEDURE

Certain procedural words (**prowords**) having distinct meanings are used to shorten the time of voice communications and to avoid confusion. All troops should use them when talking on the phone or the radio.

OVER — "This is the end of my transmission to you and I expect an answer from you."

SAY AGAIN — "Say again all of your last transmission."

CORRECTION — "An error has been made in this transmission (or message indicated). The correct version is ."

I SAY AGAIN — "I am repeating transmission, or portion indicated."

ROGER — "I have received your last transmission satisfactorily."

WILCO — "I have received your message, understand it, and will comply."

OUT — "This is the end of my transmission to you and no answer is required."

## COMMUNICATIONS SECURITY

Communications security (COMSEC) denies or delays unauthorized persons from gaining information of value from telecommunications. It includes —

- using authentication to insure that the other communicating station is a friendly one,
- using only approved codes,
- designating periods when all radio equipment is turned off,
- restricting the use of radio transmitters (monitoring radio receivers/listening silence),
- enforcing net discipline and radiotelephone procedures (all stations in a net must use authorized call signs and prowords, and they must limit transmissions to official traffic),
- selecting radio sites with a hill or other shield between them and the enemy, and
- using directional antennas when possible.

## ANTIJAMMING

Radio operators should use the following antijamming procedures to thwart enemy jamming efforts.

**Recognition.** The first thing an operator must do when there is interference on his radio is to try to find its cause. As symptoms of jamming are often similar to other types of interference, he should not assume that it is jamming. If the interference decreases when the receiver antenna is removed, the interference is jamming; if it does not, the interference is generated inside the receiver.

**Continued operation.** Normal radio operation is continued once jamming has been identified so that the enemy cannot determine the effect of his jamming. The rule is: during jamming, operators continue operating unless ordered to shut down.

**Reporting.** All operators must report jamming to their next higher headquarters, by another means of communications; example, wire or messenger. **A jamming report tells —**

- **date and time of jamming,**
- **frequencies affected,**
- **type and strength of jamming signal, and**
- **designation of the unit making the report.**

## **THE DOs AND DON'Ts OF COMMUNICATIONS SECURITY**

**Do** enforce proper use of authentication systems.

**Do** use only authorized authentication systems.

**Do** assume that your radio transmissions are being intercepted by the enemy.

**Do** use proper site selection, minimum power, and minimum transmission times.



**Don't** use electrical communications when messengers will do as well. Messengers are the most secure means of communications, other than personal contact.

**Don't** paraphrase or try to talk around the subject. Keep transmissions short and concise. Use authorized codes to send information you don't want the enemy to know.



## APPENDIX K

# WORKING WITH HELICOPTERS

Infantry platoons may conduct airmobile missions, may send out and pick up patrols by helicopter, and may use helicopters for supply or to evacuate casualties. This appendix discusses general information about helicopters; how to organize for a helicopter move; and how to select and secure a pickup zone.



## ORGANIZATION

Before a platoon is lifted by helicopter, it must be organized for the move. The load (**amount of men, weapons, equipment, and ammunition**) that can be carried by a helicopter varies. It is based on the type aircraft, temperature, altitude of the pickup zone (PZ) or landing zone (LZ), humidity, and fuel load. What can be carried is the allowable cargo load (ACL), the factor considered when planning aircraft loads. When a unit is alerted for a move by helicopter, the ACL will be given to the leader. The unit can then be organized into loads based on the ACL.

ACL may be expressed as troops, e.g., 7, or weight, e.g., 2,000 lb. To convert an ACL expressed in troops to weight, the leader must multiply it by 240. An ACL of 8 men equals an ACL of 1,920 lb ( $8 \times 240 = 1,920$ ). When dealing with troops with parachutes, the leader uses a weight of 260 lb per airborne soldier.

Each aircraft load is called a **chalk**. Each chalk must have a leader who sees that each man in his chalk gets on and off the aircraft, that everything is ready to load, and that everything gets loaded correctly. The chalk leader should sit in the aircraft where he can best stay oriented during flight and where, upon landing, he can get off quickly to control his men.

A platoon leader maintains tactical integrity and self-sufficiency of each aircraft load as much as possible. He maintains tactical integrity by keeping squads and fire teams intact. He maintains self-sufficiency by loading a machinegun and its ammunition or a Dragon tracker and a Dragon round on the same aircraft.

A platoon leader cross-loads key men, weapons, and equipment among the aircraft. For example, he puts himself on one aircraft and the platoon sergeant on another. Another example is putting machineguns on different aircraft. He does this to prevent the loss of control or unit effectiveness in the event an aircraft is lost.

A platoon leader prepares a load plan for his platoon: It tells each man —

- which aircraft he is to get in, and
- who his chalk leader is.

A chalk leader tells each man in his chalk —

- where to sit,
- what to do in case of an emergency, and
- what to do when the aircraft lands.

## CHARACTERISTICS OF HELICOPTERS

**Capabilities.** Under normal conditions, helicopters can climb and drop at steep angles. This allows them to fly from and into confined and unimproved areas.

Troops and their combat equipment can be unloaded from a helicopter hovering a short distance above the ground with trooper ladders and rappelling ropes. If the aircraft can hover low enough, soldiers may jump out. The trooper ladder can also be used to load troops when the helicopter cannot land.

Cargo can be transported as an external (sling) load and delivered to unit areas not supplied by any other means.

Because of a wide speed range and high maneuverability at slow speeds, helicopters can fly safely and efficiently at a low altitude, using hills and trees for cover and concealment.

Their ability to fly at high or low altitudes and to fly rapidly, combined with their capability of slow forward speeds and nearly vertical landings, enables helicopters to operate under most conditions.

Landings and takeoffs can be made when visibility is poor.

Helicopters flying at low levels can achieve surprise, and deceive the enemy as to LZ location.

Engine and rotor noise may deceive the enemy as to the direction of approach and intended flight path.

**Limitations.** The large amount of fuel used by helicopters limits their range and ACL. Helicopters may reduce fuel load to permit an increased ACL, but reducing the fuel load reduces their range.

Hail, sleet, icing, and winds (40 knots or more) or gusty winds (gusts up to 15 knots) will prevent the use of helicopters.

Engine and rotor noise may compromise the mission or secrecy.

The load-carrying capability of helicopters decreases with increases of PZ/LZ altitude, humidity, and temperature.



## UTILITY AIRCRAFT CANNOT LAND WHEN —

the downwind (tailwind) speed is 5 knots or more,



the crosswind speed is 10 knots or more,

or

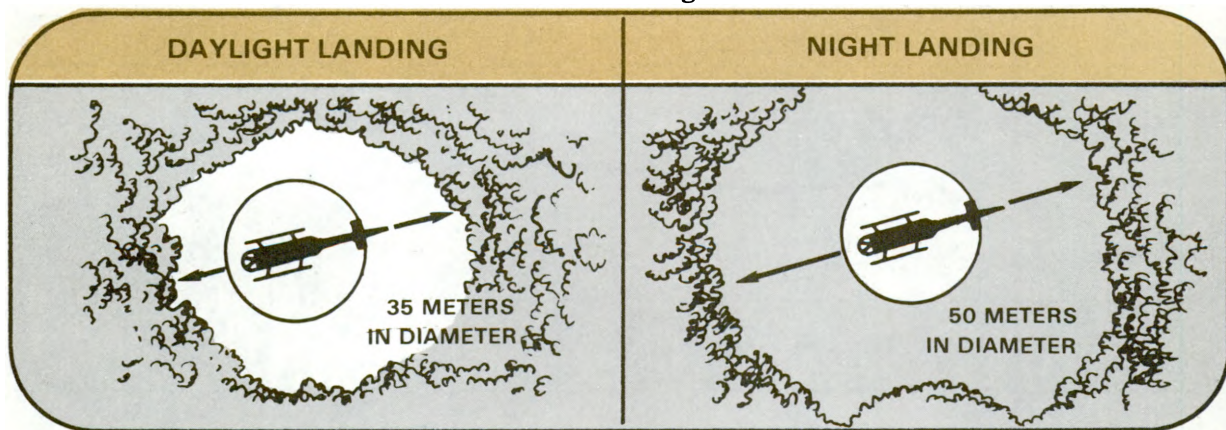
the wind gusts are 15 knots or greater.



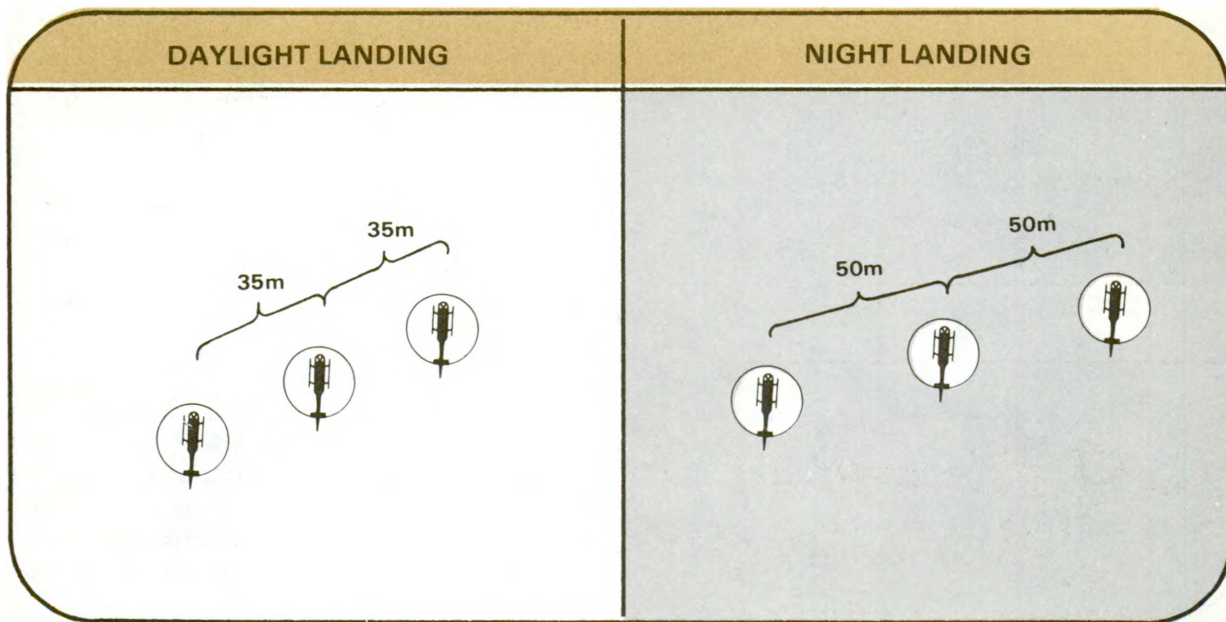
## SELECTION OF HELICOPTER PZs AND LZs

**Leaders must consider:**

**Size.** Utility helicopters need a relatively level area about 35 meters in diameter for landing. They need about 50 meters at night.



**Number of helicopters that must land.** There should be about 35 meters between helicopters in daylight and about 50 meters at night. It may be necessary to have two PZs or LZs, or to land aircraft one at a time.

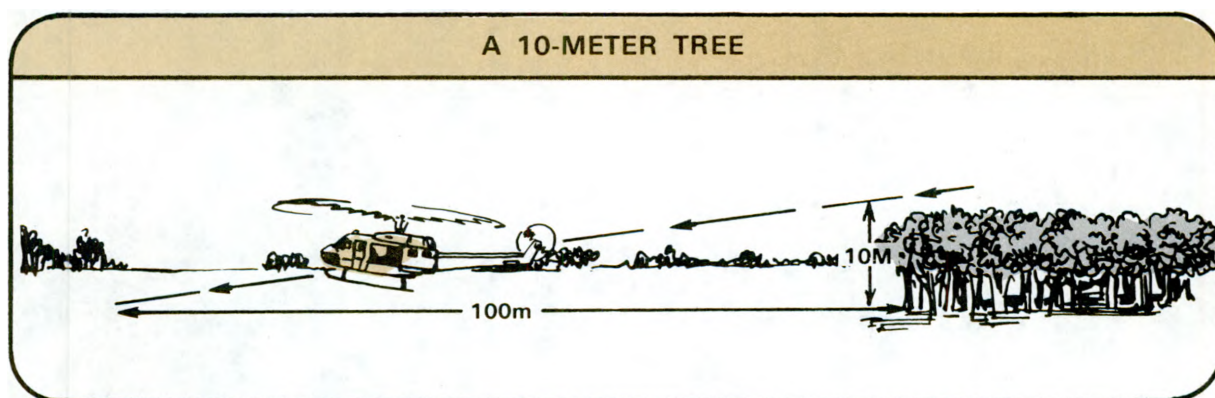




**Surface condition.** The surface must be firm enough to keep helicopters from bogging down, raising too much dust or debris, or blowing snow. Troops must remove loose debris that may damage the rotor blades or engines.

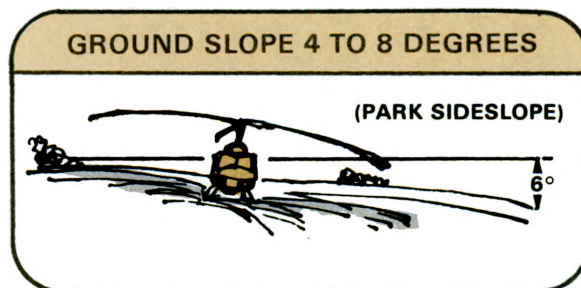
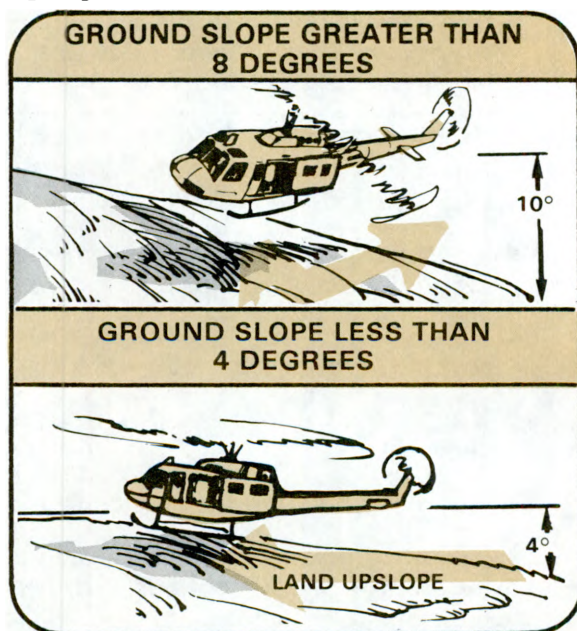
**Obstacles.** PZs or LZs should be free of tall trees, telephone and power lines, and

similar obstructions on the approach and departure ends. Obstructions (for example, rocks, stumps, holes) that cannot be eliminated must be clearly marked. Leaders use an obstacle ratio of 10:1 (for example, a 10-meter tree needs 100 meters of horizontal clearance for landing or takeoff).



**Ground slope.** If ground slope is greater than 15 percent (8 degrees), helicopters cannot land safely. When it is less than 7 percent (4 degrees), they should land upslope.

In areas where ground slope is from 7 to 15 percent (4 degrees to 8 degrees), aircraft must land and park sideslope.



They can sometimes hover over ground which slopes more than 15 percent (8 degrees) to load or drop off troops or supplies.

**Approach/departure directions.** The direction of landing should be generally into the wind. However, if there is only one satisfactory approach direction because of obstacles or the tactical situation, most helicopters can land with a slight crosswind or tailwind. The same considerations apply to their departure.

**Loads.** Most helicopters cannot take off or land straight up or down when fully loaded; so, a larger LZ/PZ and better approach and departure routes may be required for fully loaded aircraft.

Some more considerations are:

- **Location in relation to objective.**
- **Unit capability to secure.**
- **Enemy location, capabilities, and strength.**
- **Cover and concealment.**
- **Obstacles (marking for day and night).**
- **Identification from the air.**
- **Approaches and exits.**
- **Weather and its effect.**

## SECURITY OF HELICOPTER PZs and LZs

Good PZs and LZs allow for helicopter extraction or insertion without exposing the unit or the aircraft to unnecessary risks. All-round security must be maintained.

When troops are being extracted from a PZ, security sectors are shifted after the first chalk leaves to keep the all-round security. Supporting fire is planned and Claymores are emplaced. Troops should stay covered and concealed to preclude giving away the unit's location and activity.

When an aircraft lands on an LZ, troops exit it and move about 20 meters away, lie down facing out, watch for the enemy, and wait for the aircraft to leave. When it leaves,

the men must get up and quickly move to their assigned positions for all-round security.



All leaders must enforce strict safety measures when working with helicopters. Some of the measures are:

- **Do not let soldiers walk behind a helicopter. Never approach from or depart to the rear of a helicopter.**
- **Keep body low when approaching and departing a helicopter, especially on slopes.**
- **Keep safety belts fastened when airborne (for training).**
- **Keep weapons unloaded (no round in chamber) and on SAFE.**
- **Keep radio antennas down and secured.**
- **Keep hand grenades secured.**
- **Do not jump from a hovering helicopter until told to by a member of its crew.**

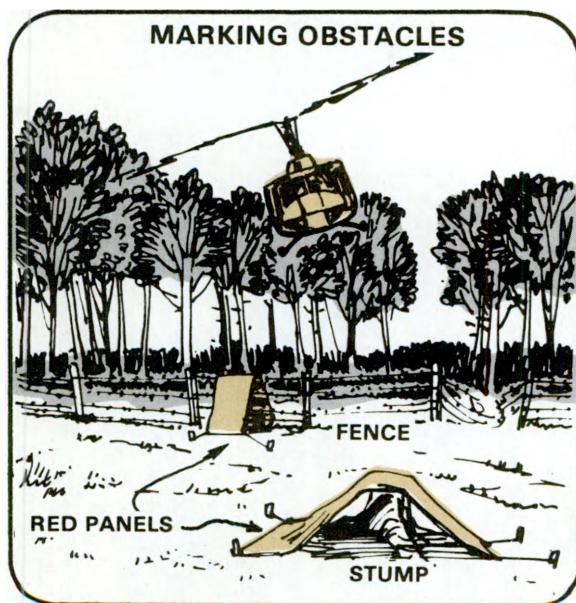


## MARKING A PZ OR LZ

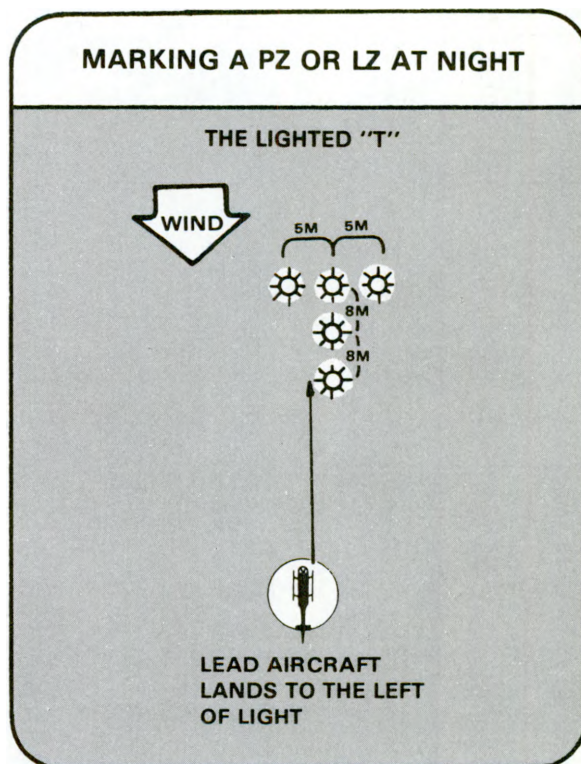
No markings are used on a PZ or LZ in daylight operations, except smoke or other minimum identification means (such as a VS-17 panel).

For a night operation, troops use lanterns, flashlights, chemical lights, or expedient devices to show the direction of landing and to mark aircraft landing points.

Troops must mark obstacles in day and in night operations. In daylight, troops use red panels or other easily seen objects or materials to mark obstacles. In night operations, troops use red lights to avoid security problems. In any case, pilots should be advised of obstacles whether marked or unmarked.



**Marking a PZ or LZ at night.** There are many ways to mark a PZ or LZ at night. The lighted "T" is one way. An example of the lighted "T" is:



A lighted "T" indicates the landing point of the lead aircraft of each flight and the direction of approach. The formation used by the aircraft will determine how to emplace the lights for the other aircraft. See FM 57-38, chapter 4.





## APPENDIX L

**HEALTH, HYGIENE, AND  
CARE OF CASUALTIES****HEALTH AND HYGIENE**

All leaders must enforce high standards of field sanitation and hygiene. This is the best way to prevent sickness and disease.

**PERSONAL HYGIENE**

There is no substitute for keeping clean. In this, a leader must **SET THE EXAMPLE**. He must see that proper latrines and wash points are available and used. He must train every man in field hygiene.

**Keep Clean.** Situation permitting, men should bathe daily. At least, the feet, underarms, face, and hands should be washed.

**Give Special Attention to Foot Care.** Feet should be washed with soap and water daily. Boots must fit properly and be broken-in. Socks must fit and be changed daily. Feet should be powdered with issue foot powder as socks are changed. During a long foot march, and in times of lots of rain or severe cold, commanders and leaders should hold daily foot inspections. The aidman should supervise and help treat blisters and other minor problems.



**Trim Hair and Keep it Clean.** Short hair is less susceptible to infestation by lice and fleas or to infection. If necessary, hand clippers (in the company barber kit) can be used to cut hair.

**Shave Daily.** Unless prevented by the situation or a lack of water, every man should shave daily.

**Keep Clothing and Sleeping Gear Clean.** Dirty or insect-infested clothing and sleeping gear can counter efforts to keep the body clean. Clothing should be exchanged and/or washed frequently. Sleeping gear should be washed or aired out in sunlight.

## SANITATION

Leaders must supervise and enforce strict sanitation standards. Soldiers should eat food and drink water only from approved sources. When there is no approved water source, they must treat water with purification tablets or by boiling. Mess equipment must be kept clean. Trash and garbage must be buried. Visible trash and garbage violate camouflage. They also draw disease-spreading insects. Trash and garbage sumps (holes) must be dug [at least 1.2 meters (4 ft)] so they will not be rooted up by animals after they are closed. Defensive positions, assembly areas, etc., must be kept well policed.

Troops should not share towels, shaving items, etc. Leaders must enforce the proper use of latrines and catholes, which must be filled in and marked. Wash points should be next to latrines, and soldiers should wash their hands after using the latrine.





## CARE OF CASUALTIES

Quick treatment and care of battle casualties serve two purposes.

1. A soldier's morale is higher if he knows that the men in his unit are well trained to care for him if he is hurt.
2. The quicker a casualty is treated, the more likely he is to recover and return to duty.

### WHO TREATS CASUALTIES

**Medical Aidman.** Each platoon of an infantry company is authorized an attached aidman. He moves with the platoon leader and has these jobs:

- Gives first aid to casualties and returns to duty those men who need no further treatment.
- Arranges for evacuation of casualties who need more treatment.

If there are multiple casualties, he classifies them first and then aids the worst cases himself while infantrymen care for the others.

**Soldiers.** As aidmen cannot always get to every casualty, often the first treatment that a casualty gets is given by the casualty to himself or by another soldier. It should be SOP that when a man is wounded, his buddy gives first aid and then continues with the mission.



## EVACUATION OF CASUALTIES

**Casualty Collection Points.** The platoon aidman is in charge of evacuation. He treats casualties, arranges for evacuation, and keeps a record of each man evacuated. Casualties are taken (**or they may have to walk**) to the company aid station. They are then evacuated to the battalion aid station.

**Evacuation Under Fire.** A soldier who is hit in a firefight is given first aid by the aidman or another soldier. If he can continue to fight, he does so; if not, he walks to the aid station. If he cannot walk, he is treated, his location is reported to the squad leader, and the squad continues with the mission. When the objective is seized, two or three men from the platoon are sent back to take the casualties to the aid station. When withdrawing, **A UNIT TAKES ITS CASUALTIES WITH IT.**

## WEAPONS AND PERSONAL EFFECTS OF CASUALTIES

Walking wounded carry their weapons to the aid station. If they are to be evacuated out of the company, their weapons are collected and given to their squad leader. Weapons of casualties who cannot walk are also collected and given to their squad leaders before they are evacuated from the platoon.

PERSONAL EFFECTS FOUND ON A  
CASUALTY  
ARE EVACUATED  
WITH  
THE CASUALTY.

## FIRST AID

Each man must know how to administer the **four life-saving measures (FM 21-11).**

- 1. CLEAR THE AIRWAY AND RESTORE BREATHING AND HEARTBEAT.**
- 2. STOP THE BLEEDING.**
- 3. TREAT FOR SHOCK.**
- 4. PROTECT THE WOUND.**

### DOs OF FIRST AID

Act promptly but calmly. (A man who "loses his head" is of little value to a wounded soldier.)

Reassure the wounded man. At the same time, quickly and gently examine him to see if you need to **OPEN THE AIRWAY, RESTORE BREATHING AND HEARTBEAT, or STOP THE BLEEDING.** If required, do those things instantly. (Lack of air leads to death in a very few minutes.)

Reexamine the wounded man at once. In a careful, gentle, organized (**head-to-toe, front and back**) way, find the extent and type of injuries. Then (**as required**) **PREVENT SHOCK and DRESS AND BANDAGE THE WOUND TO AVOID INFECTION.** If shock is not prevented or corrected, the soldier may die even though the injury causing the shock would not otherwise be fatal. Healing of a wound and recovery of the soldier depends to a great extent on how well the wound was first protected from contamination.



**DON'TS OF FIRST AID:**

**Don't** position a soldier on his back if he is unconscious or has a face or neck wound.

**Don't** remove clothing from an injured soldier by pulling or tearing it off.

**Don't** touch or try to clean a dirty wound or burn.

**Don't** remove dressing and bandages once they have been put on a wound.

**Don't** loosen a tourniquet once it has been applied.

**Don't** move a man who has a fracture until it has been splinted unless it is absolutely necessary to move him from close enemy action, a toxic environment, or a burning building.

**Don't** give fluids by mouth to a soldier who is unconscious, nauseated or vomiting, or who has an abdominal or neck wound.

**Don't** permit the head of a man with a head injury to be lower than his body.

**Don't** try to push protruding intestines or brain tissue back into a wound.

**Don't** put any medication on a burn.

**Don't** administer first aid steps which are unnecessary or beyond your capabilities.

**Don't** fail to replace items which have been used from your first aid case. When the soldier gives first aid to another, he must use the wounded man's first aid items first — he may need his own later.





## APPENDIX M

## ROAD MARCHES

Moving troops from one place to another is necessary for all military operations. Troops must get to the right place, at the right time, and in good fighting condition. When deployed, they move using the proper movement techniques (**chap 3**). For long-distance moves, when speed is more important than cover and concealment, faster techniques — foot or motorized tactical road marches — are used.

These definitions are applicable to road marches (by foot or vehicle).

**March unit.** A unit which moves and halts at the command of a single commander, normally a platoon leader or a company or battalion commander.

**Start point (SP).** A point on a route at which the subunits of a march unit come under the control of the overall commander. It is at this point that the column is formed by the successive passing of each of the subunits composing the march unit.

**Pace setter.** A person or vehicle in the lead element that is responsible for regulating the speed.

**Rate of march (speed).** The average distance (kilometers) traveled in a given period of time (hours) including short halts or delays.

**Critical point.** A point on the route used for reference in giving instructions, or any point on the route where interference with movement may occur.

**Arrival time.** The time the head of a column reaches a designated point or line.



**Clearance time.** The time when the tail of a column passes a designated point or line.

**Release point (RP).** A point on a route at which the subunits of a column return to the control of their respective leaders.

**Pass time.** The time between the movement of the first unit past any given point, and the movement of the last unit past the same point.

**Completion time.** The time the tail of a column passes the release point.

## FOOT MARCHES

Usually a platoon marches, as part of the company, in column with one file on each side of the road with 2 to 5 meters between men, 7 to 10 meters between squads, and 50 meters between platoons. The platoon leader and squad leaders position themselves where they can best control their respective units — normally up front. The normal rate of march for an 8-hour march is 4 km per hour. The formation, interval, and rate of march all depend on the length of the march, the time allowed, the likelihood of enemy contact, the terrain and weather, the condition of the troops, and the equipment/weight to be carried.

## MOTOR MARCHES

**Closed column.** A closed column is one whose elements are formed compactly (**close together**) to reduce pass time. It may be used for movement through congested areas for better control. Closed column is also useful for night moves under blackout and over

poorly marked routes. Distance between vehicles is reduced to about 15 to 20 meters. A maximum “**catch-up**” speed (**greater than the prescribed rate**) is announced for vehicles regaining lost distance. Control is eased because fewer guides, escorts, and markers are needed.

**Open column.** In an open column, the elements are widely spaced as a passive defensive measure. The vehicle distance is 75 to 100 meters. This permits vehicles, not a part of the column, to enter the column and overtake vehicles in the column. Open column is suitable for moves made in daylight or to overcome the effects of dusty roads. Driver fatigue and the chance of accidents are less than in closed column marching. Open column provides a compromise between the conflicting requirements of a large traffic flow and a wide dispersion of vehicles.

**Counterambush techniques.** The possibility of being ambushed exists whenever moving. When dismounted, protection against ambush is gained by good security and by using the proper movement techniques (**chap 3**). When moving in trucks, men cannot be dispersed but they can take other security measures.

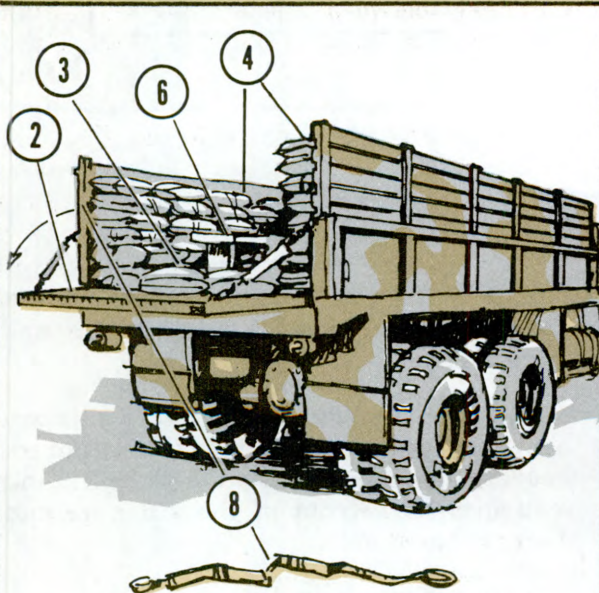
When enemy contact is likely, the trucks move in open column. Leaders should analyze the terrain on the route to find places where the enemy could set up an ambush. Scouts should precede the convoy to confirm and check out the route. Indirect fire should be planned along the route. When approaching danger areas on the route, it may be wise to dismount a squad to check both sides of the road before the convoy passes.



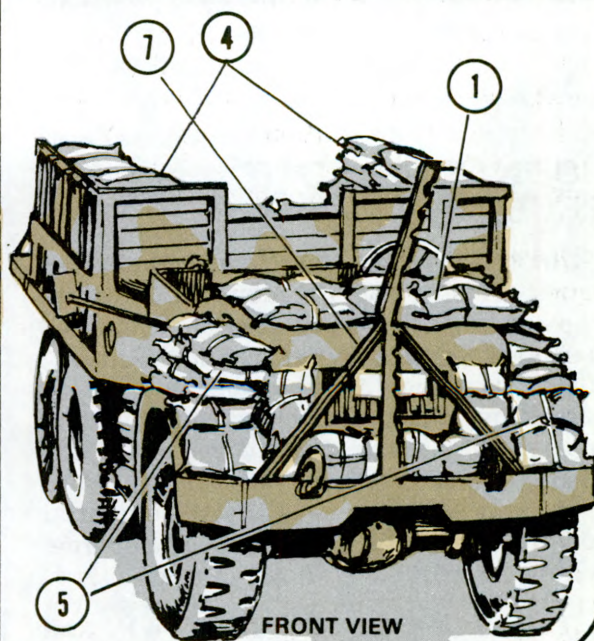
## PREPARATION FOR MOVEMENT

### TO PREPARE A 2 1/2-TON TRUCK FOR THE TRANSPORT OF TROOPS

- 1 lower windshield and cover it with tarps (this reduces danger of flying glass and stops glare);
- 2 place tailgate halfdown to ease dismounting (troops can then shoot and dismount fast);
- 3 put at least two layers of sandbags on the floor of the cab and cargo area to protect against mines;
- 4 stack sandbags along the sides of the cargo bed to protect troops from small arms fire from the flanks;
- 5 stack and fasten sandbags around the engine compartment to protect the engine (do not block the flow of air to radiator);
- 6 place troop seats in the center, facing out, so troops can react fast;
- 7 install wire-cutting apparatus in front of truck to prevent injury of troops from wire stretched across the road;
- 8 remove the rear safety strap for fast dismounting.



REAR VIEW



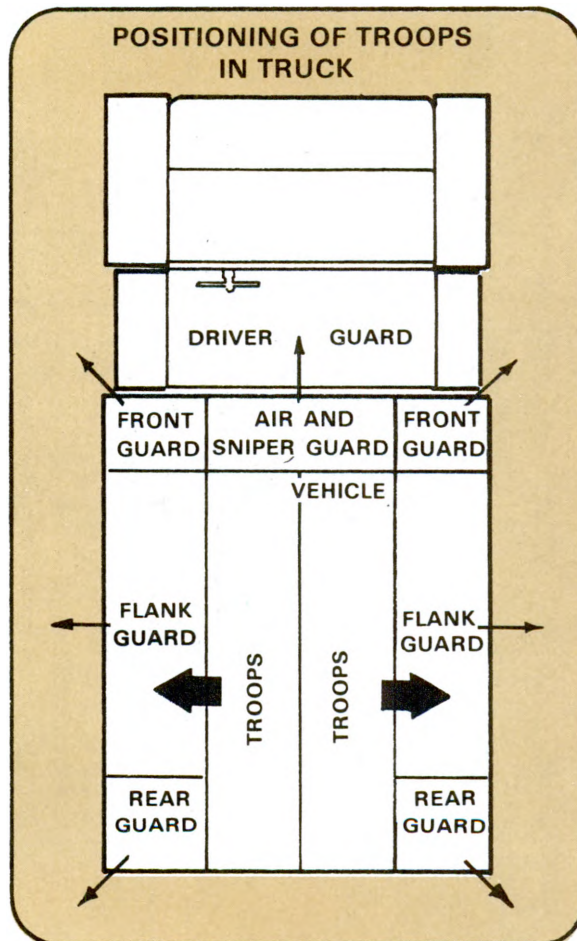
FRONT VIEW

Troops in the trucks should be organized for best control, security, and ease of dismounting. All troops have their weapons in their hands. Load-bearing equipment is worn. Radios are worn and turned on. Extra equipment is stowed under the seats (**when in center of trucks**).

Troops should be alert and ready to shoot and/or dismount. The figure shows one way to position troops in a 2½-ton truck.

**NOTE:**

1. Guards are armed with AR or GL.
2. Weapons are loaded with safety on.



## COUNTERAMBUSH TECHNIQUES

Units should plan and rehearse immediate action drills to react to ambushes. The most important immediate action when ambushed is to place a high volume of fire on the enemy. If the route is not blocked and enemy fire is not intense, the convoy should suppress the enemy and keep moving to get out of the enemy fire. If the road is blocked and troops are caught in a kill zone, they dismount at once and fire continuously at the enemy from behind the best cover they can find.

They use hand grenades (HE, WP, and smoke) to kill and blind the enemy. Other

mounted troops, not in the kill zone, dismount and attack the enemy by fire and maneuver.

If the whole column is caught in a kill zone, heavy suppressive fire must be attained. Leaders then order a hasty attack by fire and maneuver to get out of the kill zone and disrupt the ambush.

When contact is broken, the unit consolidates and reorganizes, treats and evacuates the wounded, and then continues the movement.



## APPENDIX N

# PRISONERS OF WAR AND CAPTURED ENEMY DOCUMENTS

Prisoners of war (PWs) are a good source of combat information. Troops must handle PWs without breaking international law and without losing a chance to gain intelligence.

PWs must be treated humanely. They must not be physically or mentally harmed. The senior officer or NCO present is responsible for their care. If a platoon cannot evacuate a PW in a reasonable time, the platoon must give him food, water, and first aid. He should not be given comfort items; for example, cigarettes and candy. Those PWs who receive favors and those who are mistreated are poor interrogation subjects.



### HANDLING PWs

In handling PWs, use the five "S's":

1. **Search PWs** as soon as you capture them. Take their weapons and papers, except identification papers. Give a written receipt for any personal property and documents taken. Tag documents and personal property so that you know which PW had them. Have one man guard while another searches. When searching, do not get between a PW and the guard. To search a PW, have him spread-eagle against a tree or wall, or on the ground in a pushup position with the knees on the ground. Search the PW and all his gear and clothing.

**2. Segregate PWs into groups:** officers, NCOs, enlisted men, civilians, males, females, and political figures. This keeps the leaders from promoting escape efforts. Keep groups segregated as they move to the rear.

**3. Silence PWs.** Do not let them talk to each other. This keeps them from planning escape and from cautioning each other on security. Report anything a PW says to you or tries to say to another PW.

**4. Speed PWs to the rear.** Platoons turn PWs over to the company where they are assembled and moved to the rear for questioning by the S2.

**5. Safeguard PWs** when you take them to the rear; make sure they arrive safely. Watch out for escape attempts. Do not let them bunch up, spread too far out, or start

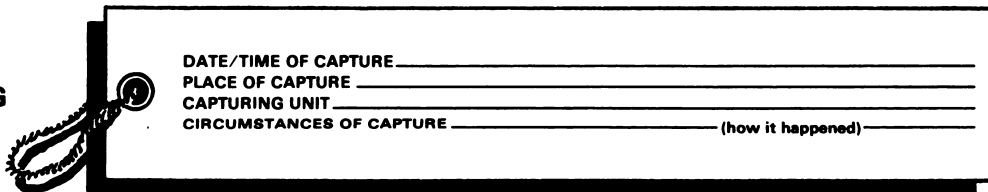
diversions (**fist fights, etc.**). These create a chance for escape. At the same time, do not let anyone abuse them.

PWs should be taken to the company PW collection point. If the situation allows, squad, platoon, and company leaders may question PWs, when they are first caught, to gain local intelligence. The PWs are then taken by guards (**maybe from the platoon**) to the battalion's PW collection point.

If a PW is wounded and cannot be evacuated through normal channels, he should be treated by an aidman and evacuated through medical channels.

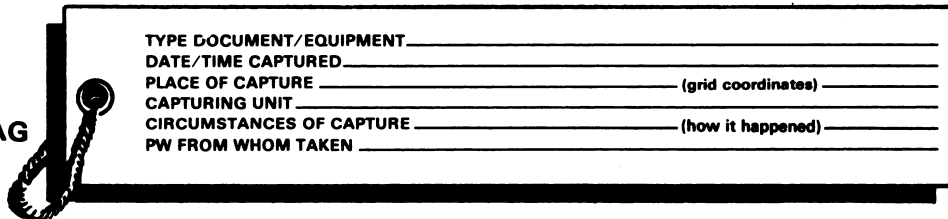
Before evacuating a PW, he should be tagged. (See figure below for example of PW and document tag. These tags are made by the unit and have no set format. They must contain the information shown below.)

PW TAG



DATE/TIME OF CAPTURE \_\_\_\_\_  
 PLACE OF CAPTURE \_\_\_\_\_  
 CAPTURING UNIT \_\_\_\_\_  
 CIRCUMSTANCES OF CAPTURE \_\_\_\_\_ (how it happened) \_\_\_\_\_

DOCUMENT  
OR  
EQUIPMENT TAG



TYPE DOCUMENT/EQUIPMENT \_\_\_\_\_  
 DATE/TIME CAPTURED \_\_\_\_\_  
 PLACE OF CAPTURE \_\_\_\_\_ (grid coordinates) \_\_\_\_\_  
 CAPTURING UNIT \_\_\_\_\_  
 CIRCUMSTANCES OF CAPTURE \_\_\_\_\_ (how it happened) \_\_\_\_\_  
 PW FROM WHOM TAKEN \_\_\_\_\_

## CAPTURED DOCUMENTS AND EQUIPMENT

Enemy documents and equipment are good sources of information. Documents may be —

- official (maps, orders, records, photos) or
- personal (letters, diaries, pay records).

If such items are not handled well, the information in them may become lost or outdated. They should be given to the company commander quickly. Each item should be tagged (**using the tag shown above**). If an item was found on a PW, his name should be on the tag and the item should be separated from him.

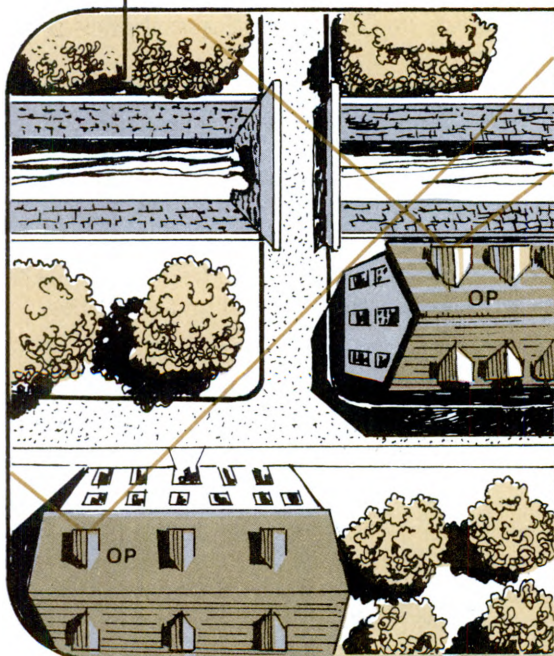


## APPENDIX O

## OBSERVATION POSTS

Observation posts (OPs) are positions from which troops watch and listen to enemy activity in a particular sector. They warn their unit of enemy approach. In the defense, a platoon leader positions OPs for local security as ordered by the company commander. The platoon leader selects the general location but the squad leader sets up the OP. There will normally be at least one per platoon. An OP normally consists of two to four men and is within small arms supporting range of the platoon. When the platoon must screen or secure a wide area, a squad may have to set up several two-to four-man OPs or one squad-size OP.

## SELECTING THE LOCATION OF THE OP

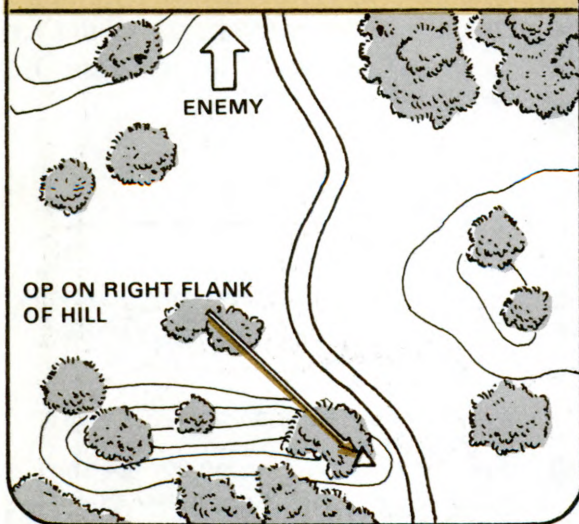


A squad leader is given the **general** location of the OP by the platoon leader. The squad leader selects the **exact** position.

Leaders look for positions that—

- have good observation of the desired area or sector (ideally, an OP has a field of observation which overlaps those adjacent OPs),
- have cover and concealment (good observation of the sector may require the OP to accept less cover and concealment and require troops to selectively clear fields of observation),

- have covered and concealed routes to and from the OP (troops should be able to enter and leave the OP without being seen),
- will not attract attention (the squad leader should not pick a position such as a water tower, an isolated grove of trees, a lone building or tree, or an abandoned vehicle; these draw the enemy's attention),
- will not skyline the observers (hilltops should be avoided; OPs are usually better sited farther down the slope or on a flank of a hill as long as they have covered withdrawal routes).



## MANNING THE OP

At least two men should man an OP. Three or four may be needed if they must stay out for a long time. One man observes. The other provides local security, and records and reports information. These men switch jobs every 20 to 30 minutes because the efficiency of an observer decreases quickly after that time.

The observer should have binoculars to help him see and identify the enemy. He should also have a compass to get azimuth readings. He should have a map with targets plotted on it so he can call in indirect fire.

At least one man in the OP should know how to call for and adjust indirect fire.

## SETTING UP AN OP FOR LOCAL SECURITY

The squad leader takes out the men who are to man the OP and shows them where to set up. He also tells them when and how to report, if and when they should fire at the enemy, how to get back to the squad if he tells them to withdraw, and when they will be replaced (if known).

OPs should have wire OR radio for communicating. If not given one of these means, one man (**messenger**) must go back to the squad leader with the information while the other man (**men**) stays on watch.

If the OP has a phone, the wire should be concealed in vegetation. If in sand or snow, the men in the OP should cover the wire and sweep the surface with branches. Once the wire is put in, it may be cut by indirect fire or the enemy. A leader should never send one man to check a wire line. If he has to check it, he should send two men—one man to find the cut and the other to overwatch him. The enemy may try to take prisoners by cutting a line and capturing a man when he comes to repair it.

Radios may be given to the OP to supplement phones. Phones should always be used first because they are much more secure.

OPs should shoot at the enemy only in self-defense or to cover their withdrawal. Their mission is to observe and report; they are isolated and they do not have enough firepower to defeat even a small enemy force.



An OP withdraws only on order or to avoid capture. The platoon leader will tell them when to pull back or under what conditions they can withdraw without his order.

OPs build fighting positions for protection and concealment.

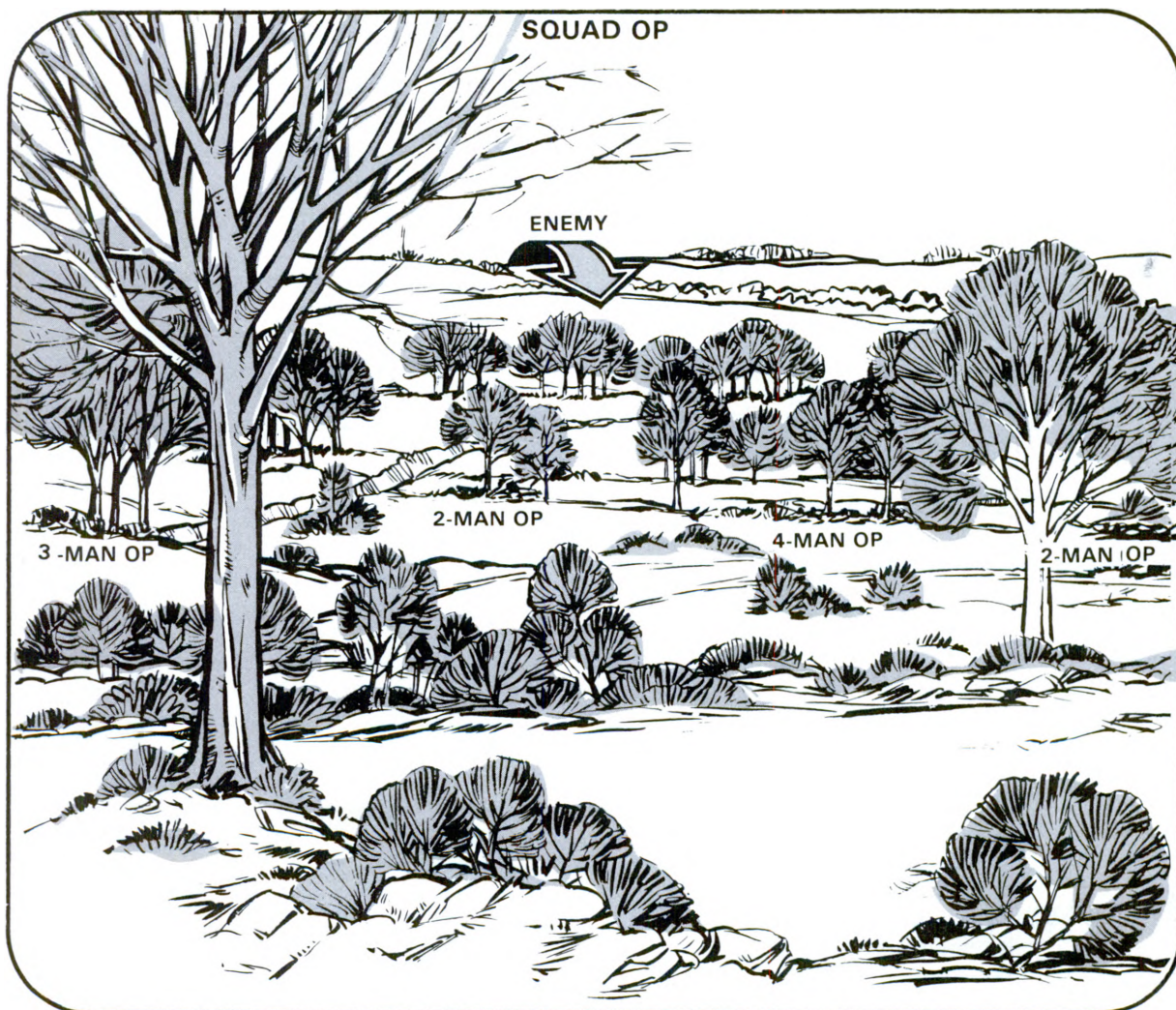
Tripflares, noise-making devices, and night vision devices increase the effectiveness of the OPs.

The frequency of relief for guards and OPs depends on the physical condition of the men, weather, morale, number of troops available,

and the next operation. As a guide, OPs should be relieved every 2 hours.

An entire squad may occupy one OP when the platoon has a mission to screen the flank of a larger force or to secure a wide area. A squad leader is told where to post the OP, when and how to report, whether or not he is to shoot any target, and how he is to rejoin the platoon.

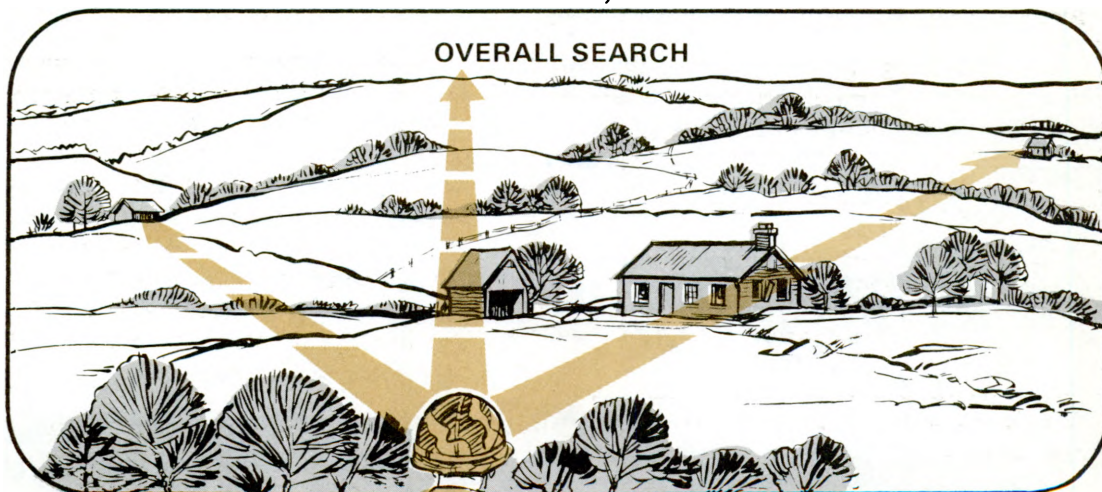
The squad leader occupies this type OP by placing his men in two- to four-man positions from which they can observe. These positions are spread out to let the squad observe a larger area.



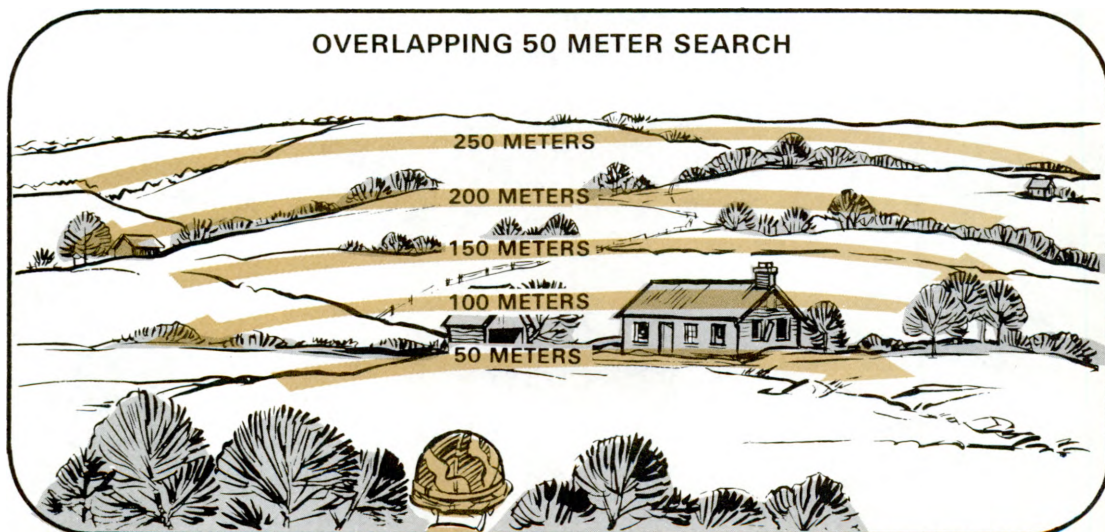
## HOW TO VISUALLY SEARCH TERRAIN

Visually search terrain in two steps:

**STEP 1-** Make a quick, overall search of the entire area for obvious targets and unnatural colors, outline, or movement. This is done by quickly raising your eyes from just in front of your position to the maximum range you wish to observe. If the sector is wide, subdivide it into subsectors.



**STEP 2-** Observe overlapping 50-meter-wide strips, alternating from left to right and right to left until the entire area has been observed. When you see a suspicious spot, search it well.





## WHAT TO REPORT

OPs report all information quickly, accurately, and completely. They make sure that the report answers the questions **WHO, WHAT, WHERE, and WHEN**. It is best to use the SALUTE format (**Size, Activity, Location, Unit, Time, and Equipment**) when reporting information.

Size	
Activity	
Location	
Unit	
Time	
Equipment	

When observing, it helps to take notes and draw a sketch.

**Size.** The size of the enemy unit is the number of troops or vehicles seen. For example, the OP should report **TEN ENEMY INFANTRYMEN** (not an infantry squad) or **THREE ENEMY TANKS** (not an enemy tank platoon).

**Activity.** Men in the OP report what they see the enemy doing; for example, **EM-PLACING ANTITANK MINES IN THE ROAD**.

**Location.** Men in an OP report where they saw the enemy. If they have a map, they report the grid; for example, **GS874461**. If they do not have a map, they relate the location to key terrain; for example, **ON THE HANN ROAD, 300 METERS SOUTH OF THE KELL RIVER BRIDGE**.

**Unit.** The unit to which an enemy soldier belongs may be hard to determine. The OP should report markings on vehicles or any other distinctive feature. Some countries have particular uniforms, headgear, and colored tabs on uniforms which identify the type unit. The unit's action may indicate its type. The kind of equipment they have may be peculiar to a certain type of unit. For example, a BRDM may indicate a reconnaissance unit.

**Time.** Men in the OP report the time when they saw the enemy activity, not the time they report it.

**Equipment.** Men in the OP report all of the equipment the enemy is wearing or using. If they do not recognize an item of equipment or a type of vehicle, they sketch it and submit the sketch with their report.



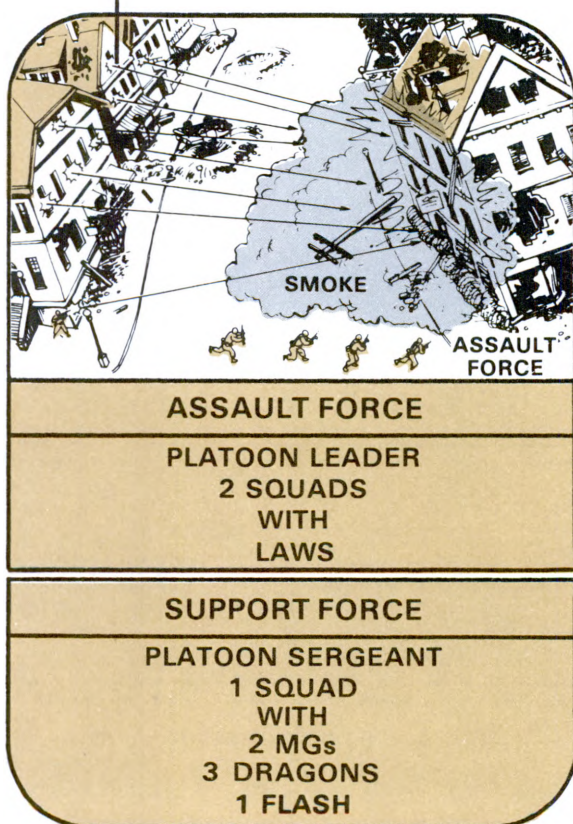


## APPENDIX P

# FIGHTING IN URBAN AND FORTIFIED AREAS

## COMBAT IN URBAN AREAS

This appendix provides a basic knowledge of urban combat. For a more complete discussion, see FM 90-10, **Military Operations in Urbanized Terrain**.



Infantry platoons fight in built-up areas as part of an infantry company. While the principles discussed earlier in this manual still apply, **platoons have two tasks that are unique to combat in urban areas —**

- attacking and clearing a building, and
- defending from a position in a building.

## HOW TO ATTACK AND CLEAR A BUILDING

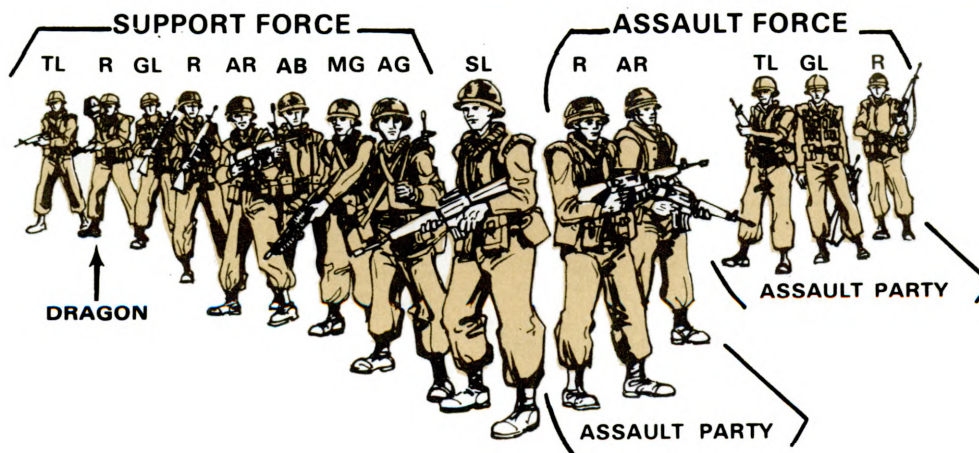
A rifle platoon normally attacks one building at a time. The platoon leader designates a part of the platoon as the assault force and the rest as the support force. The makeup of these forces changes with the situation. As a rule, the Dragons and machineguns and one or two rifle squads will make up the support force. **An example organization of the platoon is shown to the left:**

A platoon may have nonorganic weapons attached to it based on its mission, the enemy, the terrain it must occupy, or the number of troops and type weapons it already has. For example, antitank weapons may be attached if the platoon is to overwatch another platoon's maneuver (**mission**), if the platoon is expected to be attacked by armor vehicles (**enemy**), if the platoon's position offers good fields of fire against distant targets (**terrain**), or if the platoon does not have enough troops and weapons to cover its sector (**troops**).

The support force may be armed with Dragon, LAWs, and flame weapons. The assault force will have LAWs and will carry extra hand grenades. It may also carry a flamethrower or an M202 FLASH.

If a rifle squad is to attack and clear a building, the leader organizes it like the platoon. A squad reinforced with a machinegun crew may be organized like this:

#### RIFLE SQUAD ORGANIZED TO ATTACK AND CLEAR A BUILDING



#### A BUILDING IS ATTACKED IN THREE STEPS:

1. The support force and indirect fire support isolate the building.

2. The assault force enters the building to seize a foothold.

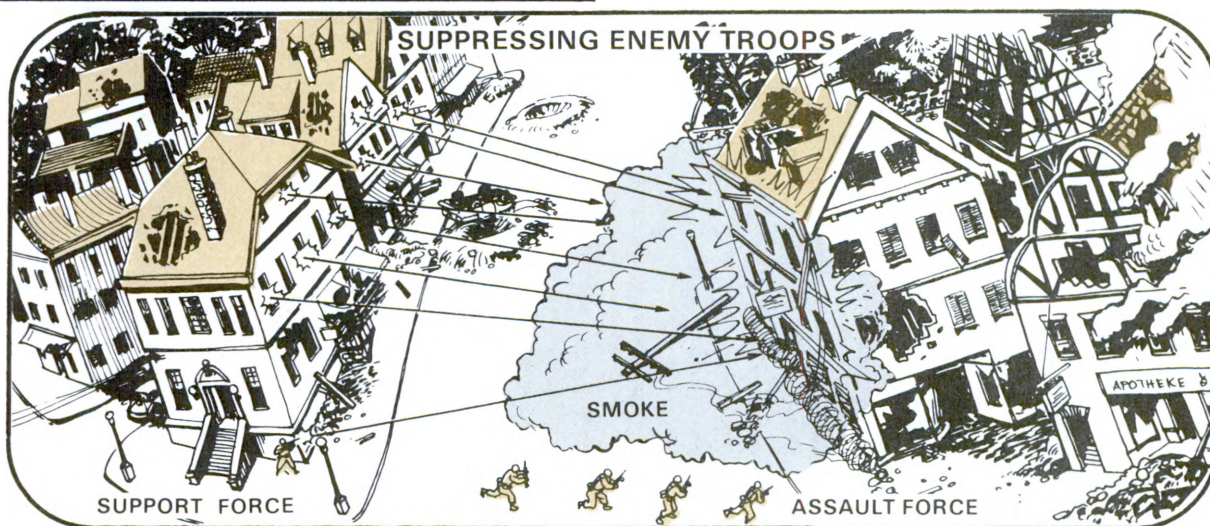
3. The assault force clears the building room by room.



To isolate the building, the support force takes an overwatch position. It fires and adjusts indirect fire to suppress enemy troops in the building and those in nearby buildings who can shoot at the assault force.

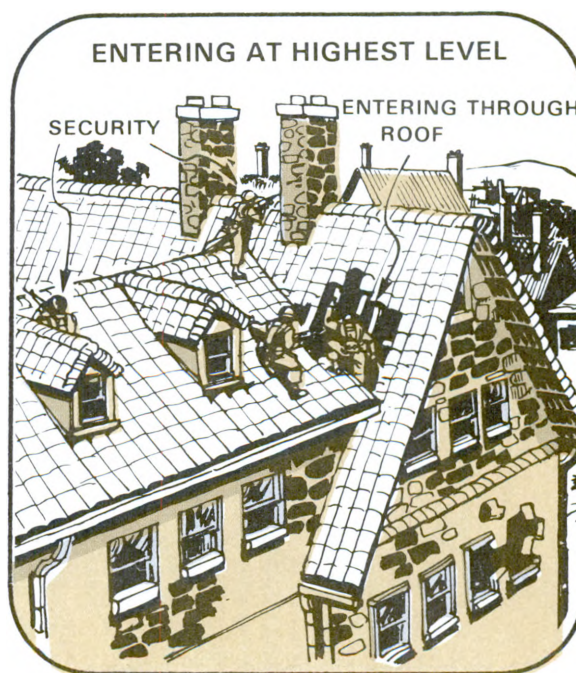
#### NOTE:

To use Dragons in urban areas, targets must be beyond the minimum arming distance of 65 meters.



The assault force moves to the building on a covered and concealed route using smoke grenades or smoke pots for additional concealment. The assault force enters the building at the highest level it can, because —

- usually the ground floor and basement are the enemy's strongest defenses,
- the roof of a building is normally weaker than the walls, and
- it is easier to fight down stairs than up stairs.





If there is no covered route to the roof, the assault force may enter at a lower story or at ground level. In this case, it should seize a foothold quickly, fight to the highest story, and then clear from the top down.



If the building is built of concrete or brick, the platoon may enter at two places. This calls for a clear understanding of which part of the building each squad is to clear. A squad will use only one point of entry.

To enter a building, one of the two- or three-man assault parties moves (**covered by fire**) to the point of entry. One man throws a grenade into the room. After the explosion, the party enters, one man at a time overwatched by the rest. The first man rushes in firing two- or three-round bursts. He takes a position to cover the whole room. The other men enter the room and make a quick but thorough search.



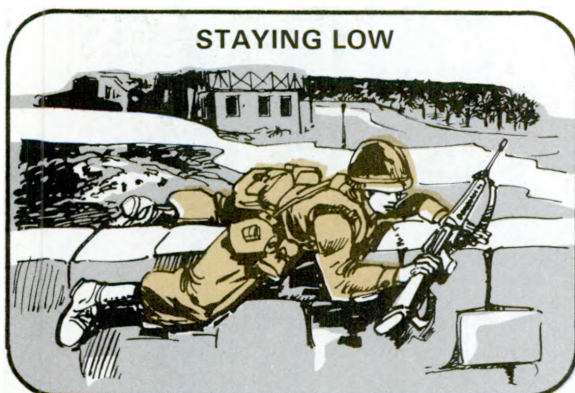
The same procedure is repeated from room to room, floor to floor until the building is clear of all enemy. It is then secured. If feasible, it becomes the position from which the assault on the next building is overwatched. This assault may be made by a different squad(s) of this platoon, or by a different platoon.

#### Points to remember:

- **Doors and windows will be covered by fire and may be booby-trapped. Do not enter through them unless you can suppress the enemy and neutralize the booby-traps.**
- **Rifle rounds will penetrate most interior walls. Be sure you know who is on the other side of a wall you fire at.**
- **While ladders, drainpipes, and grappling hooks may help gain entry at a high level, you must use these aids in covered locations. If there is no cover, do not try to climb the side of a building.**



- **Keep away from the middle of streets.**
- **Do not silhouette yourself climbing over walls or into windows.**
- **"Cook-off" a grenade for 2 seconds before throwing it.**
- **Do not throw grenades up stairs.**



Once the building is clear, it should be marked using a prearranged sign; for example, a chalk mark over the door, or a sheet hanging out of a window.

## HOW TO PREPARE A BUILDING FOR DEFENSE

A rifle platoon normally defends in one to three buildings. This depends on the size, strength, and layout of the buildings.

■ **Protection.** Reinforced concrete or brick buildings protect best. A reinforced cellar is good. Wooden buildings should be avoided.

■ **Dispersion.** It is better to have a position in two mutually supporting buildings than in one building which may be bypassed.

■ **Concealment.** Obvious positions, especially at the edge of an urban area, should be avoided.

■ **Fields of Fire.** Positions should have good fields of fire in all directions.

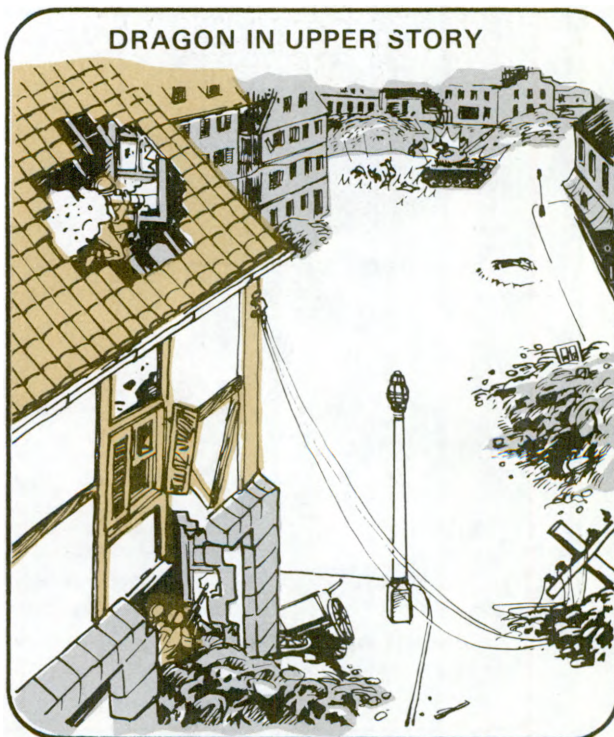
■ **Observation.** The building should permit observation into the adjacent sector.

■ **Covered Routes.** These are used for movement and resupply. They are best when through or behind buildings.

■ **Fire Hazard.** Buildings which will burn easily should be avoided.

■ **Time.** Buildings which need a lot of preparation are undesirable when time is short.

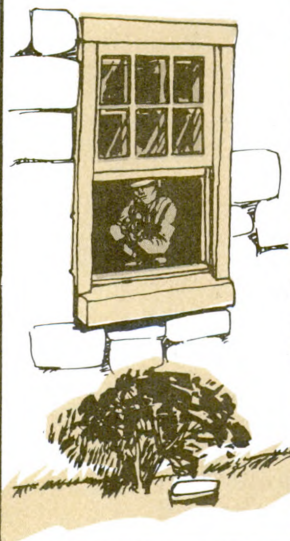
Once the platoon leader picks the building(s) he will defend, he positions his Dragons and machineguns and squads. Machineguns should be on ground floors to have grazing fire. Dragons should be positioned on upper stories for longer range and to permit firing at the tops of tanks. The squads are assigned primary and, if feasible, supplementary positions. These positions should permit continuous all-around defense.





# PREPARING POSITIONS IN BUILDINGS

OUTSIDE VIEW

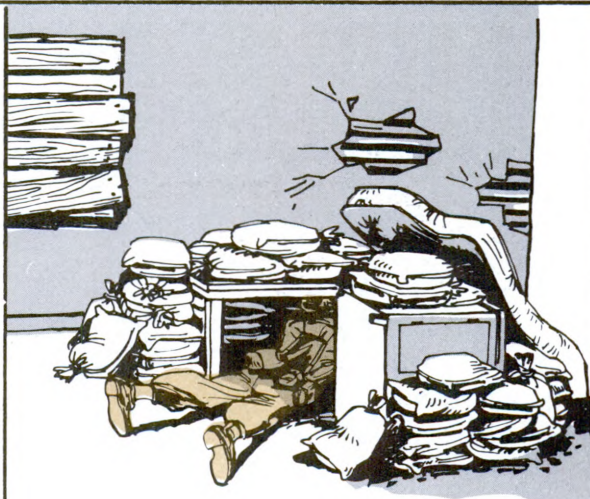


INSIDE TOP VIEW

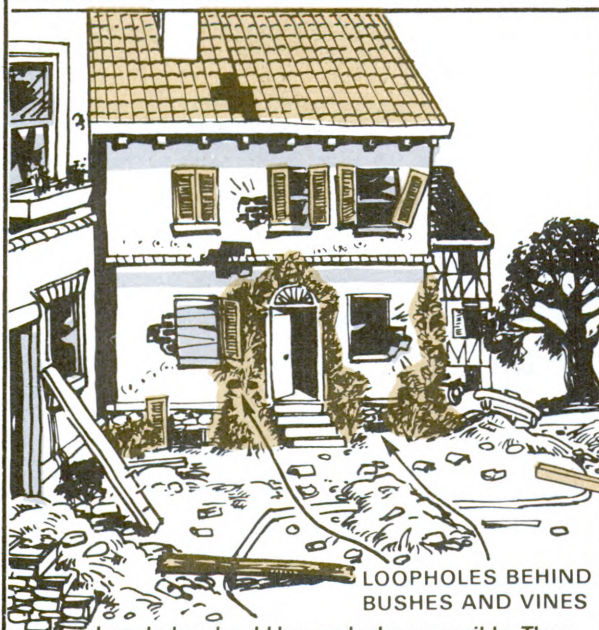


WINDOW

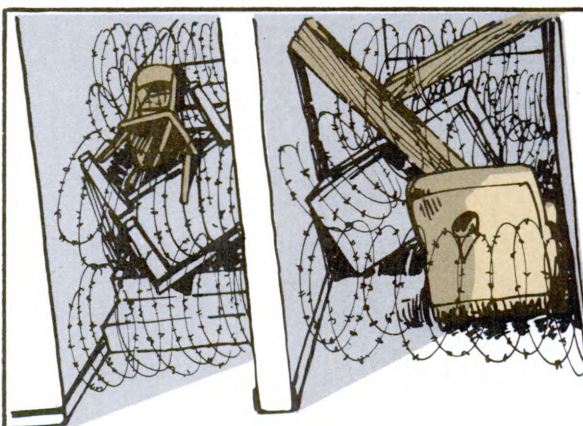
Window positions should be in the shadows, and not right at the window.



Positions should be improved with sandbags or rubble and have overhead cover.

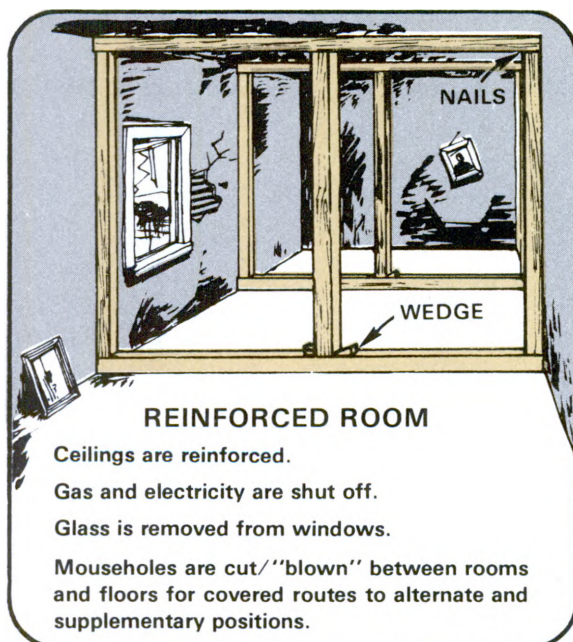


Loopholes should be used where possible. They should be placed where they are hidden and not expected to be.



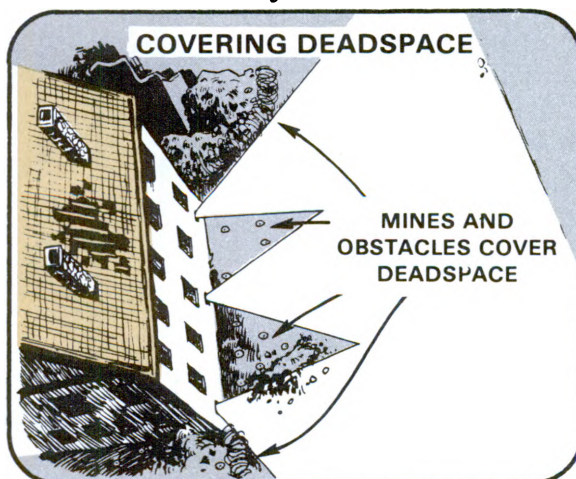
Doors, hallways, stairs, and windows that will not be used are blocked or screened.





The platoon's food, water, and ammunition may be stockpiled at each defensive position. If there is a fire hazard, firefighting equipment should be positioned throughout the building. The floors should be covered with a layer of dirt. Phone lines should be laid through the buildings. Radio antennas can be hidden by placing them next to walls.

Mines and obstacles are used to cover deadspace and to keep the enemy from using streets, alleys, or rooftops. These obstacles should be covered by fire.



All firing positions are camouflaged. Dusty areas can be covered with blankets and wet down with water to keep dust from rising when weapons are fired.



**LAW and Dragon positions need the following additional characteristics:**



■ Because of their backblast, Dragons need a floor area of at least  $3\frac{1}{2} \times 4\frac{1}{2}$  meters (12 x 15 ft). LAWs must have a clearance of at least 1.2 meters (4 ft) from the back wall of the room.

■ The room must have an open area (ventilation) of at least 2 square meters (21 square feet). An open doorway 2 x 1 meter (7 x 3 feet) will meet this requirement.

■ All troops in the room must wear earplugs and be forward of the rear of the weapons.

In planning Dragon fire, the platoon leader must heed its minimum arming distance of 65 meters. They should be where they can fire down streets or across wide boulevards.

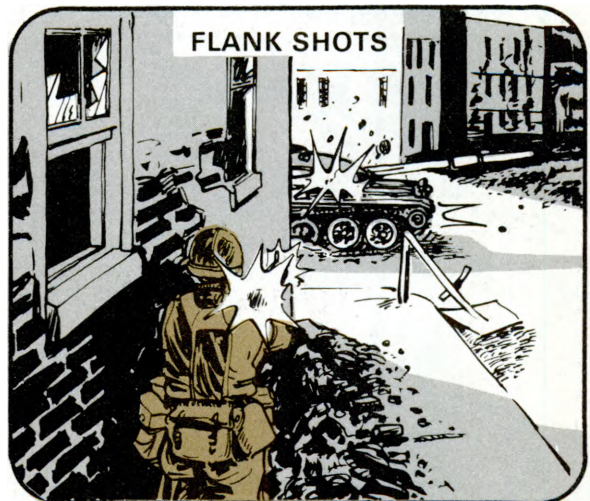
## OTHER TIPS FOR URBAN COMBAT

- When moving on streets and alleys, troops should pick cover in advance. They should hug walls and move from cover to cover. They must avoid doors and windows.
- If they must cross a street, they move directly across, not diagonally. They move in one rush, but do not bunch up.
- They should roll over walls quickly, showing as little of themselves as possible.
- Grenades should be thrown vigorously to make them harder to throw back.
- A lace curtain or piece of cloth hung across a window will hide soldiers in a darkened room.
- Burlap is a better camouflage garnish than foliage.
- Sewers or subways can be covered approaches.
- Flanking LAW shots are the safest way to hit tanks in a city.
- CS grenades can rout the enemy from his position.

CAMOUFLAGED HELMET



FLANK SHOTS





## OPERATIONS IN FORTIFIED AREAS

Enemy troops will build bunkers and trenches when they defend. The toughest of these positions include fortifications and obstacles.

These positions are tied-in to make a fortified area. As fortified areas are so hard to seize, they should be bypassed when possible. When they cannot be bypassed, rifle platoons must be ready to fight in them.

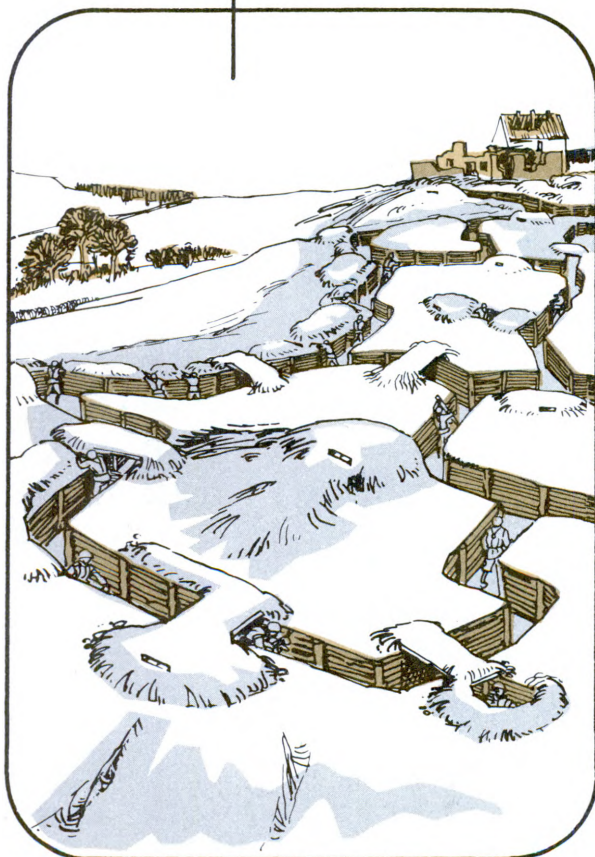
A rifle platoon will normally fight in a fortified area as part of a rifle company. The most likely mission that the company will assign the platoon is to attack a series of bunkers.

A platoon will attack one bunker at a time. Besides normal attack planning, the platoon leader will give special consideration to the following:

- The platoon leader needs information on which to base plans. The attacker must know as much as possible about the fortified area in order to find weaknesses to attack. Aggressive reconnaissance is the best way to collect information about fortified areas.

- The platoon will normally use special weapons and equipment. Flame weapons, scaling ladders, ramps, bangalore torpedoes, and satchel-and-pole charges (**and shaped and cratering charges**) are typical items which must be given to the platoon.

- Extensive rehearsals should be conducted on models of the fortifications to be attacked.



### ATTACKING A BUNKER

The rifle platoon attacking a bunker must perform the following:

**TASK 1** — Fire into and around the bunker to suppress the defenders and to prevent its reinforcement.

**TASK 2** — Destroy or neutralize obstacles and the bunker using grenades, explosives, or flame weapons.

**TASK 3** — Assault to kill or capture the enemy in the bunker.

For these three tasks, the platoon is organized into three elements, or one element may perform more than one task. For example, automatic riflemen may first perform **TASK 1** and then take part in

**TASK 3**. Riflemen may have the primary duty of **TASK 3**, but may first have to help other troops in **TASK 1**. They may have to take over special equipment from men who become casualties to perform **TASK 2**.

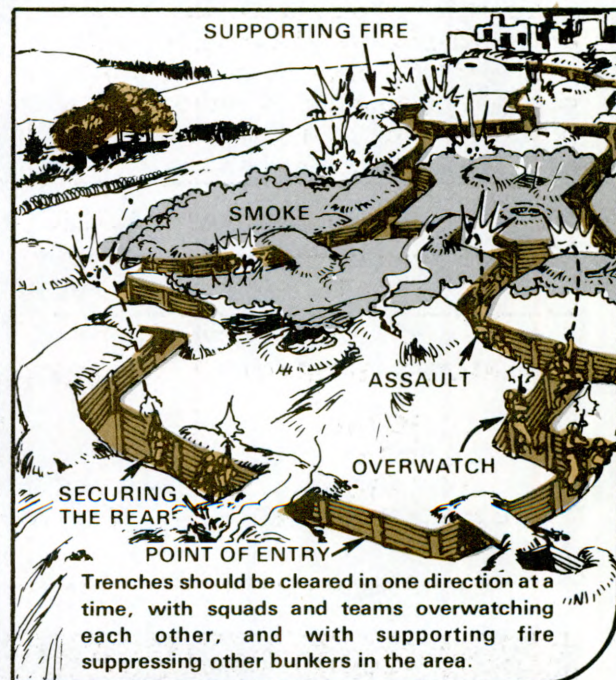
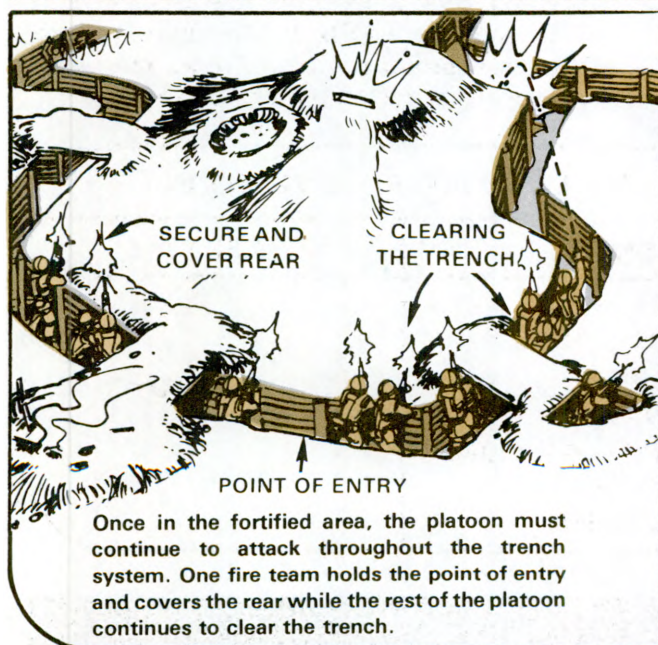
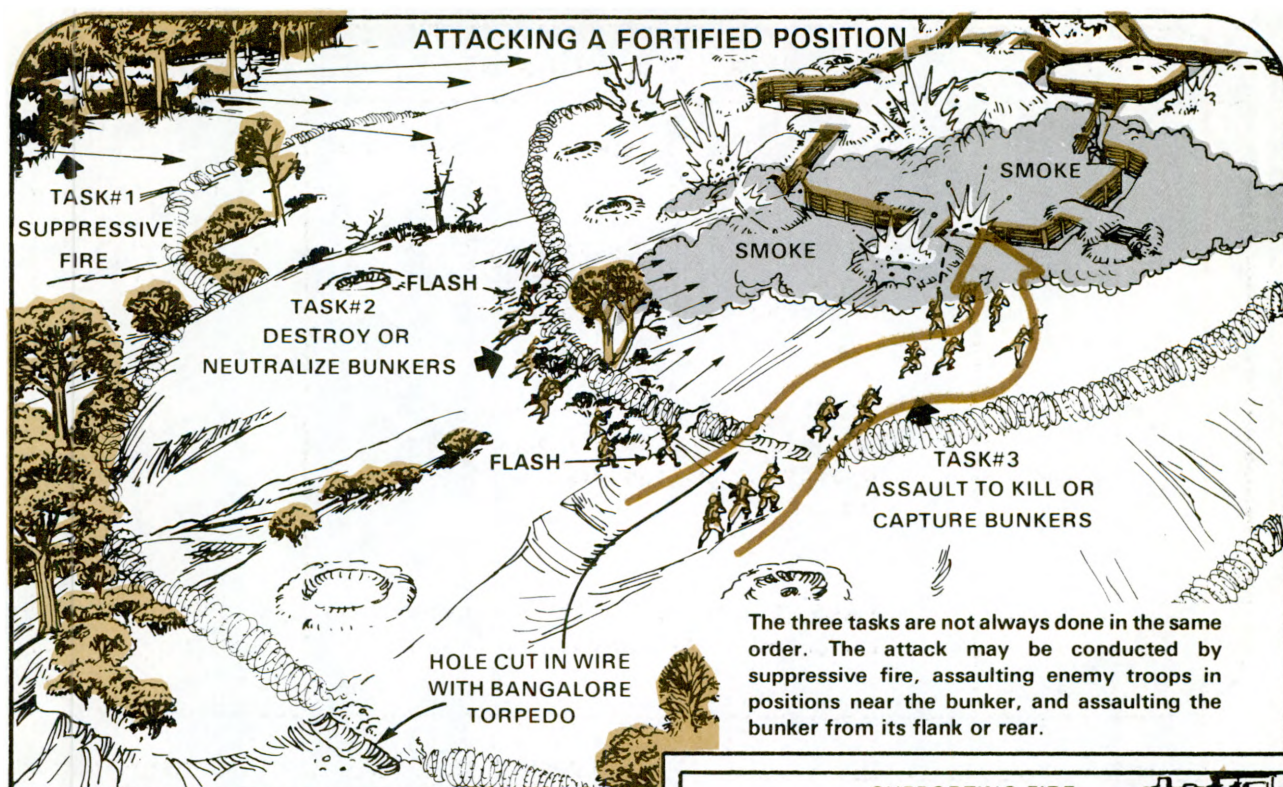
### A TYPICAL ORGANIZATION OF AN ATTACKING RIFLE PLATOON

TASK#1	TASK#2	TASK#3
PLATOON SERGEANT  1 SQUAD WITH 2 DRAGONS 2 MACHINEGUNS	PLATOON LEADER  1 SQUAD WITH 2 BANGALORE TORPEDOES 2 SACHEL CHARGES 2 FLASHES	1 SQUAD

#### NOTE:

After the wire or bunker is breached, the platoon leader will normally move to the squad performing task #3.





Before moving around a corner or into a bunker, an attacking rifleman should throw a hand grenade to clear the way. The squad

and platoon leaders must replace the lead team by another as it runs low on ammunition or takes casualties.





## APPENDIX Q

## MOVEMENT FORMATIONS

There are times when a platoon or squad must use a movement formation (**arrangement of squads or fire teams during movement**) other than the column formation discussed in chapter 3. However, the movement techniques discussed in chapter 3 should be applied, as much as possible, to whatever formation used. Leaders can still place fire teams or squads in overwatch while the remainder of the squad or platoon moves.



When a leader is given a mission in which movement is involved, he must decide what formation to use. **Factors influencing his decision are —**

- mission,
- enemy situation (likelihood of contact),
- terrain,
- weather and visibility conditions (ability to control),
- desired speed of movement, and
- the degree of flexibility desired.

This appendix explains the different squad and platoon formations. It should be used as a guide when selecting a formation.

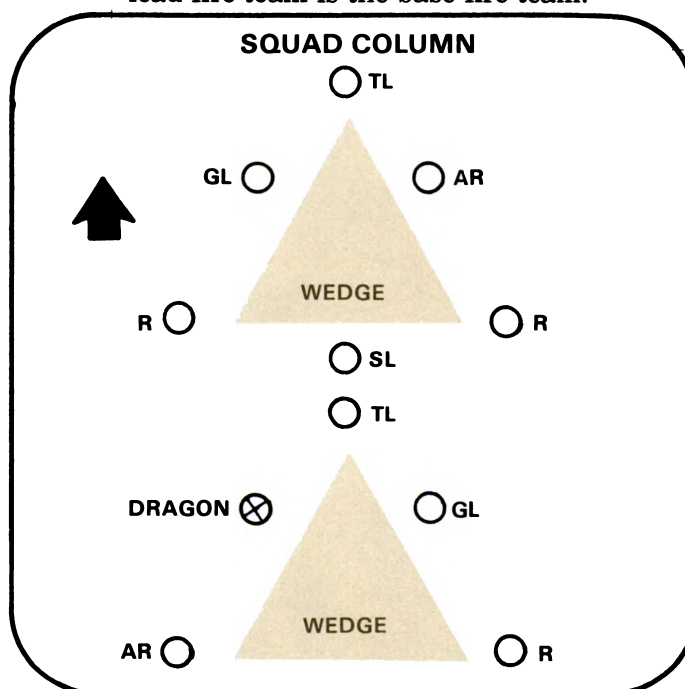
## SQUAD FORMATIONS

The squad formations are the **squad column** and **squad line**.

When the squad moves as part of the platoon, the platoon leader decides what formation the squad will use. The squad leader may alter this formation temporarily to meet changes in the situation or terrain.

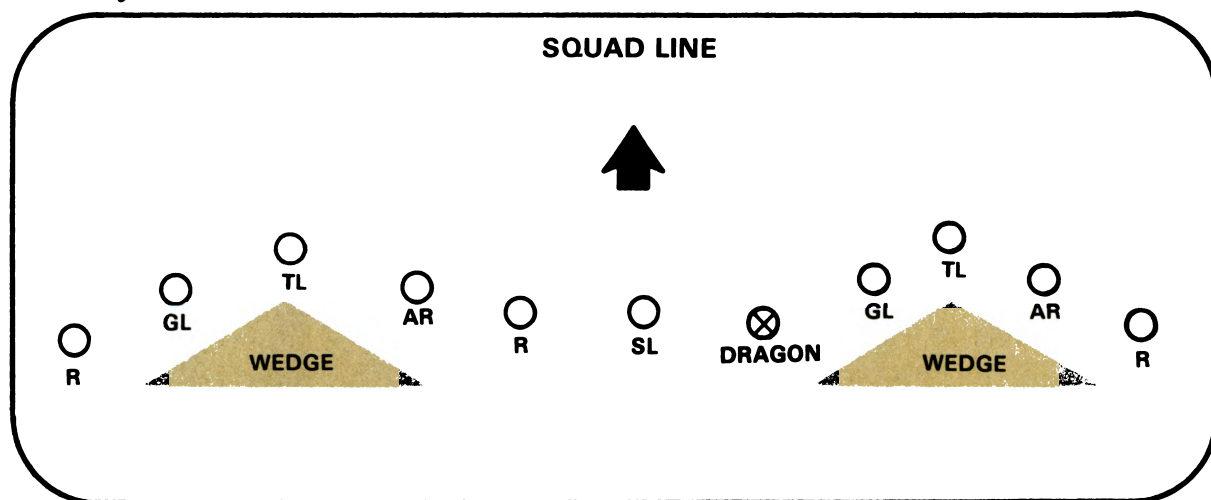
The squad leader places himself within the formation where he can best control his fire teams. The fire team leader always **leads** his fire team by being up front. The fire team's basic formation is a **wedge**, as described in chapter 3. The squad leader designates a base fire team for the other fire team to guide on.

**Squad Column.** The squad column is the squad's primary formation. This formation provides good dispersion laterally and in depth without sacrificing control. In this formation, the squad can deliver a large volume of fire in all directions. This formation facilitates fire and maneuver. The lead fire team is the base fire team.





**Squad Line.** The squad line is the squad's basic assault formation. It provides for the delivery of maximum fire to the front. In the assault, the squad leader designates a base fire team. The base fire team is the one closest to the platoon's base squad. If the squad is the base squad, the fire team on the right is normally the base fire team.



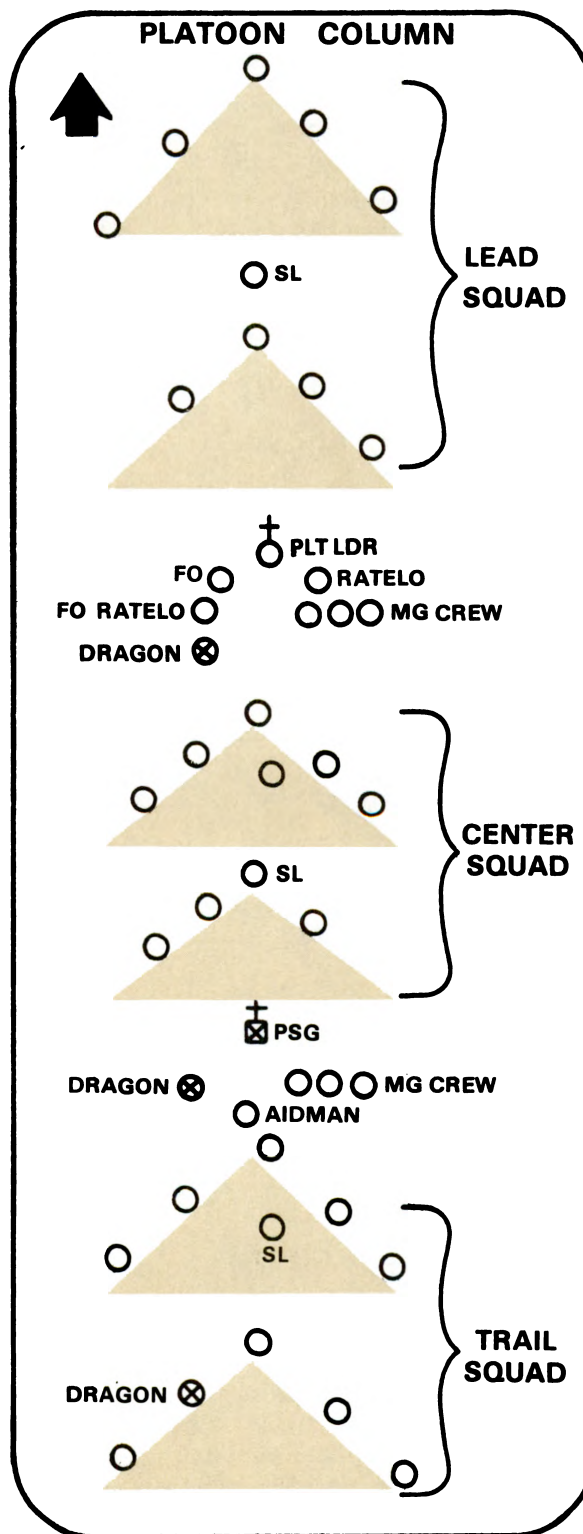
## PLATOON FORMATIONS

The platoon formations are the **platoon column**, **platoon line** (squads on line or squads in column), **platoon V**, and **platoon wedge**.

When the platoon moves as part of the company, the company commander decides what formation the platoon will use. The platoon leader may alter this formation temporarily to meet changes in the situation and/or terrain. The platoon leader decides what formation the squads will use.

The platoon leader places himself within the formation where he can best control his squads. Visual contact between the platoon leader and each squad leader should be maintained, when possible. The platoon leader designates a base squad in each formation for the other squads to guide on. The company commander designates a base platoon for the other platoons to guide on.

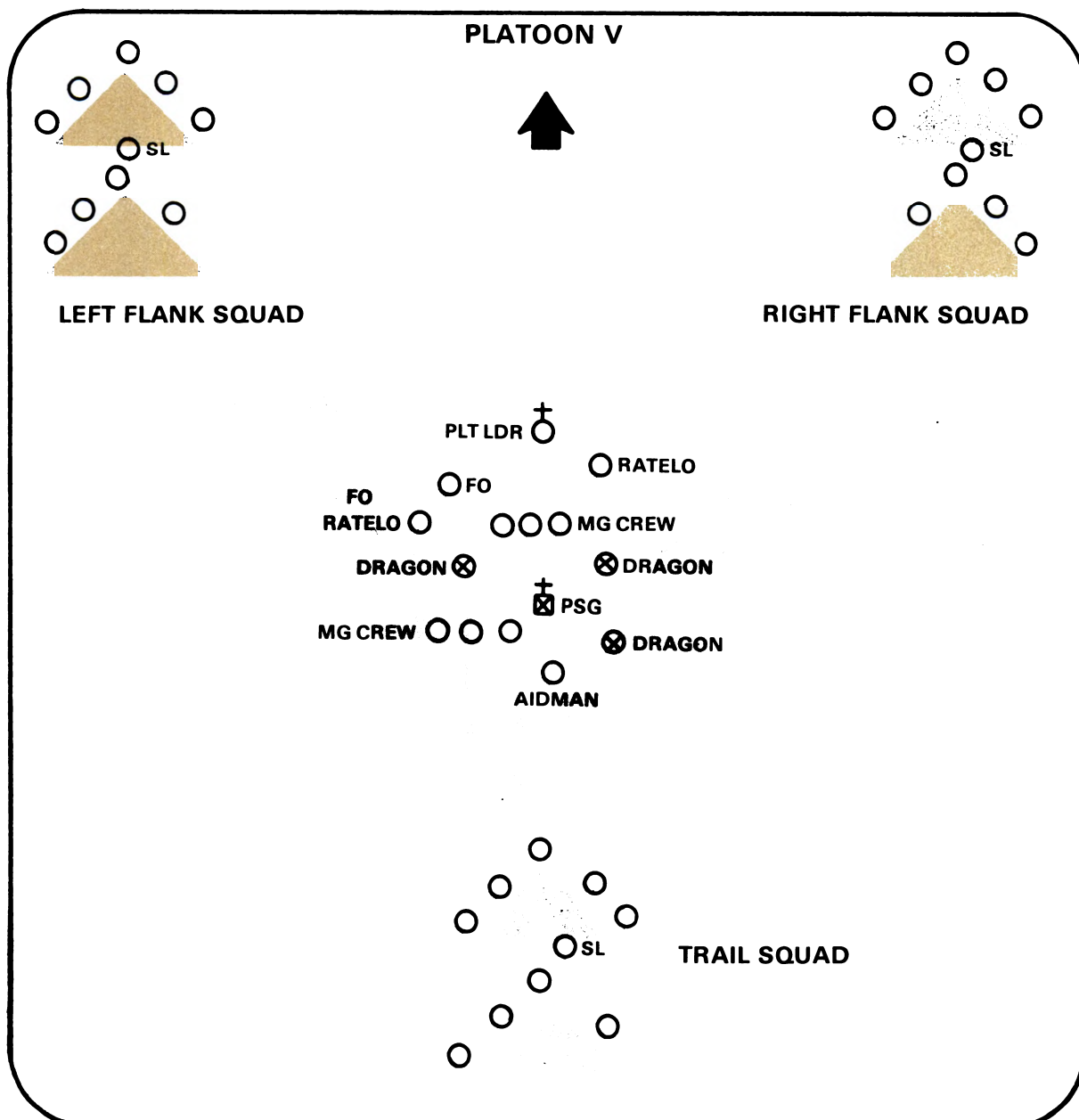
**Platoon Column.** This formation is the platoon's primary movement formation. It provides good dispersion both laterally and in depth. It facilitates control. In this formation, the platoon can deliver a limited volume of fire to the front and rear but a high volume to the flanks. It facilitates fire and maneuver. The base squad is the lead squad.





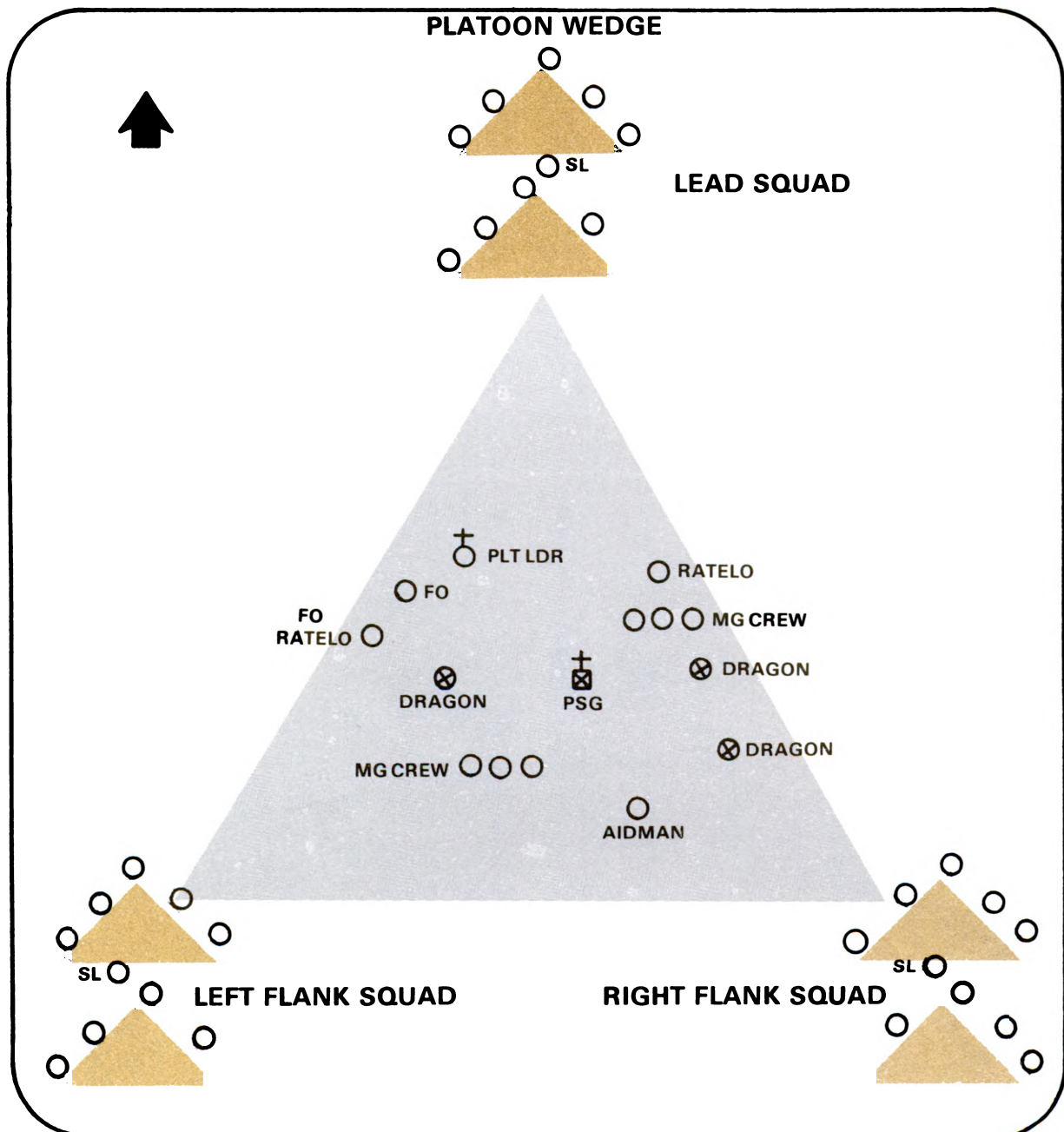
**Platoon V.** This formation is used when the enemy situation is vague but contact is expected to the front. The platoon leader has two squads up front to provide a heavy volume of fire on contact. He also has one squad in the rear that can either overwatch or trail the others. If the platoon is hit from either flank, there are still two squads to

provide a heavy volume of fire, and one free to maneuver. However, this formation is difficult to control and moves very slowly. The base platoon's base squad is its front squad. When not the base platoon, a platoon's base squad is its flank squad nearest the base platoon.



**Platoon Wedge.** This formation is used when the enemy situation is vague and contact is not expected. There are two squads in the rear that can overwatch or trail the lead squad. This formation provides a large volume of fire to the front or flanks. It allows the platoon leader to make contact with a

small element (**squad**) and still have one or two squads to maneuver. If the platoon is hit from the flank, there is still one squad free to maneuver. It is difficult to control, but it allows faster movement than the platoon V. The base squad is the lead squad.





## APPENDIX R

# ADMINISTRATION AND LOGISTICS

### ADMINISTRATION

Proper handling of personnel actions is necessary for both efficiency and morale. The platoon sergeant (PSG) oversees the platoon administration. The first sergeant (1SG) oversees the company administration. Platoon administration consists of--

●  
preparing and submitting personnel status reports;

●  
handling documents and personal belongings of dead, wounded, missing, and AWOL/deserters; and

●  
initiating and handling actions on promotions, awards and decorations, and financial or disciplinary matters.

When a battlefield casualty occurs, the squad leader fills out a DA Form 1156, Casualty Feeder Report, and gives it to the PSG. The PSG gives the form to the 1SG, who sends it to the battalion personnel administration center (PAC).

In case of a dead or wounded soldier, all of the soldier's equipment (**less his weapon and ammunition**) with him at the time of the incident is sent with him upon evacuation. His weapon is turned in to the company supply sergeant or armorer to be kept with the company. The PSG later inventories the soldier's other remaining equipment, makes two written copies of the inventory, and sends the equipment to the company supply sergeant. One copy of the inventory is kept by the PSG and one is sent with the equipment.

When a soldier is missing, AWOL, or a deserter, the PSG inventories his equipment. He makes two written copies of the inventory and sends the equipment to the supply sergeant. One copy of the inventory is kept by the PSG, and the other goes with the equipment.

## LOGISTICS

Platoon logistics include supply, transportation, and maintenance. All men in the chain of command must be concerned with the status of supplies and equipment needed to fight. Platoon logistics require both short and long term planning. **Short term plans** are made for those supply items and maintenance actions required in order for the platoon to accomplish its present mission. **Long term plans** are made for those supply items and maintenance actions required to insure the continuous operation of the platoon.

The PSG coordinates and supervises the platoon's logistical effort. The squad leader coordinates and supervises the squad's logistical effort. The PSG gets requests for supplies and equipment from the squad leaders and platoon leader, reviews and consolidates them, and gives the consolidated list to the company XO or supply sergeant. The XO, assisted by the supply sergeant, directs the company's logistical effort. The PSG must stay abreast of the status of supplies and equipment in the platoon. He must also monitor the status of his requests given to the XO and supply sergeant. The PSG routinely reports the status of the platoon's supplies and equipment to the platoon leader.

The squad leader is responsible for the maintenance of his squad's equipment. The PSG coordinates and supervises the platoon's maintenance efforts. This does not, however, reduce the platoon leader's overall responsibility for maintenance. The PSG must coordinate his platoon's maintenance efforts with the XO to insure that the platoon is in accord with the company maintenance effort. Platoon communications equipment needing repair is turned in to the company communications chief. Platoon weapons needing repair are turned in to the company armorer. Any other equipment needing repair is turned in to the company supply sergeant.



**FM 7-8**

**31 DECEMBER 1980**

**By Order of the Secretary of the Army:**

**E. C. MEYER**  
*General, United States Army*  
*Chief of Staff*

**Official:**

**J. C. PENNINGTON**  
*Major General, United States Army*  
*The Adjutant General*

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